

```

5 REM MOLE 2 POKES
10 PRINT AT 9, 2; "ENTER NO
OF LIVES (6 TO 255)"
20 INPUT A$: BEEP .1, 1
30 IF A$ = "" THEN GO TO 20
40 FOR B = 1 TO LEN A$
50 IF A$(B) < "0" OR A$(B) >
"9" THEN GO TO 20: NEXT B
60 LET LIVES = VAL A$
70 IF LIVES < 6 OR LIVES > 255
THEN GO TO 20
80 BORDER 0: PAPER 0: INK 0:
CLS
90 PRINT INK 7; AT 9, 3; "PLAY
IN MONTY MASTER TAPE"; AT
11, 9; "FROM THE START"
100 LOAD "" CODE
110 POKE 63559, 79
120 POKE 63563, 83
130 POKE 63574, 13
140 POKE 63575, 249
150 POKE 63722, 7
160 FOR N = 63757 TO 63792:
READ A: POKE N, A: NEXT N
170 RANDOMIZE USR 63520
180 DATA 033, 027, 249, 017, 000
190 DATA 064, 001, 022, 000, 237
200 DATA 176, 195, 000, 064, 033
210 DATA 255, 247, 017, 255, 255
220 DATA 001, 000, 165, 237, 184
230 DATA 049, 255, 095, 062,
LIVES
240 DATA 050, 127, 152, 195, 099
250 DATA 169

```

SPYHUNTER

One of Denton Designs' US Gold conversions has attracted a routine to gain infinite lives. Follow the usual procedure of typing in the listing and SAVEing it to tape for future use. Then RUN it and start the Spy Hunter tape from the beginning. If you have made a mistake in your data tape in put then the computer will come back with an error message.

```

5 REM SPY HUNTER POKES
10 CLEAR 65535
20 PRINT AT 9, 1; "PLAY IN SPY
HUNTER MASTER TAPE"; AT
11, 9; "FROM THE START"
30 RESTORE
40 LET TOT = 0
50 FOR N = 65024 TO 65114:
READ A: LET TOT = TOT + A:
NEXT N
60 IF TOT <> 9438 THEN PRINT
AT 0, 0; "ERROR IN DATA":
STOP
70 RANDOMIZE USR 65024
100 DATA 237, 091, 083, 092, 042
110 DATA 089, 092, 043, 205, 229
120 DATA 025, 221, 033, 128, 254
130 DATA 017, 017, 000, 175, 055
140 DATA 205, 086, 005, 042, 083
150 DATA 092, 237, 075, 139, 254
160 DATA 205, 085, 022, 042, 083
170 DATA 092, 237, 091, 143, 254
180 DATA 025, 034, 075, 092, 221
190 DATA 042, 083, 092, 237, 091
200 DATA 139, 254, 062, 255, 055
210 DATA 205, 086, 005, 042, 083
220 DATA 092, 017, 253, 003, 025
230 DATA 235, 033, 086, 254, 001

```

```

240 DATA 005, 000, 237, 176, 033
250 DATA 000, 000, 034, 066, 092
260 DATA 062, 001, 050, 068, 092
270 DATA 201, 120, 074, 108, 098
280 DATA 144

```

NIGHTSHADE

This routine gives infinite lives for Ultimate's recent release. Though it wasn't their best game it is a mappers delight.

```

5 REM NIGHT POKES
10 BORDER 0: PAPER 0: INK 0:
CLS
20 PRINT AT 9, 1; INK 7; "PLAY
IN NIGHTSHADE MASTER
TAPE"; AT 11, 9; "FROM THE
START"
30 FOR N = 1 TO 5
40 PRINT AT 19, 0: LOAD ""
CODE
50 NEXT N
60 POKE 52660, 240
70 POKE 52661, 224
80 POKE 52700, 176
90 POKE 52701, 176
100 POKE 52730, 160
110 POKE 52731, 240
120 POKE 52732, 7
130 POKE 52733, 4
140 PRINT USR 23424

```

TAPPER

This another poke that originally appeared a number of months ago. Though it wasn't printed wrong it only worked if Interface 1 was attached. If you don't possess an Interface 1 then the following routine will allow you to have infinite lives..

```

5 REM TAPPER POKES
10 CLEAR 65535
20 PRINT AT 9, 3; "PLAY IN
TAPPER MASTER TAPE"; AT
11, 9; "FROM THE START"
30 RESTORE
40 LET TOT = 0
50 FOR N = 23296 TO 23395:
READ A: LET TOT = TOT + A:
POKE N, A: NEXT N
60 IF TOT <> 9545 THEN PRINT
AT 0, 0; "ERROR IN DATA":
STOP
70 RANDOMIZE USR 23296
100 DATA 237, 091, 083, 092, 042
110 DATA 089, 092, 043, 205, 229
120 DATA 025, 006, 003, 197, 221
130 DATA 033, 128, 091, 017, 017
140 DATA 000, 175, 055, 205, 086
150 DATA 005, 193, 016, 240, 042
160 DATA 083, 092, 237, 075, 139
170 DATA 091, 205, 085, 022, 042
180 DATA 083, 092, 237, 091, 143
190 DATA 091, 025, 034, 075, 092
200 DATA 221, 042, 083, 092, 237
210 DATA 091, 139, 091, 062, 255
220 DATA 055, 205, 086, 005, 042
230 DATA 083, 092, 017, 244, 003
240 DATA 025, 235, 033, 092, 091
250 DATA 001, 008, 000, 237, 176
260 DATA 033, 000, 000, 034, 066

```

```

270 DATA 092, 062, 001, 050, 068
280 DATA 092, 201, 013, 197, 245
290 DATA 090, 028, 023, 002, 213

```

If you have the old routine then merge this with it to get it to work.

```

50 FOR = 23296 TO 23395: READ
A: LET TOT = TOT + A: POKE N,
A: NEXT N
60 IF TOT <> 9545 THEN PRINT
AT 0, 0; "ERROR IN DATA":
STOP
220 DATA 055, 205, 086, 005, 042
225 DATA 083, 092, 017, 244, 003
230 DATA 025, 235, 033, 092, 091

```

AD ASTRA

Gargoyle Games' original hit has at last got some pokes for it. Just use this routine to gain infinite lives.

```

5 REM AD ASTRA POKES
10 CLEAR 24490
20 LOAD "" SCREEN$
30 LOAD "" CODE
40 LOAD "" CODE
50 POKE 35852, 0: POKE 35853,
0
60 POKE 35854, 0
70 RANDOMIZE USR 33000

```

NIGHTSHADE

This set of pokes get rid of the nasties except for the four main creatures and the fireball.

```

1 REM NIGHTSHADE POKES
5 CLS
10 RESTORE
20 LET TOT = 0
30 FOR I = 23296 TO 23430
40 READ A
50 LET TOT = TOT + A
60 POKE I, A
70 NEXT I
80 IF TOT <> 12907 THEN
PRINT "ERROR IN DATA!!!":
BEEP 1, 50: STOP
90 PRINT AT 0, 0; "START
NIGHTSHADE TAPE. ANY KEY ..
": PAUSE 1: PAUSE 0
100 RANDOMIZE USR 23296
1000 DATA 49, 255, 255, 175, 211
1010 DATA 254, 33, 0, 64, 17
1020 DATA 1, 64, 54, 0, 1
1030 DATA 0, 27, 237, 176, 205
1040 DATA 122, 91, 62, 255, 55
1050 DATA 221, 33, 0, 0, 17
1060 DATA 136, 19, 205, 86, 5
1070 DATA 205, 122, 91, 62, 255
1080 DATA 55, 221, 33, 0, 64
1090 DATA 17, 0, 27, 205, 86
1100 DATA 5, 205, 122, 91, 62
1110 DATA 255, 55, 221, 33, 0
1120 DATA 96, 17, 0, 136, 205
1130 DATA 86, 5, 205, 122, 91
1140 DATA 62, 255, 55, 221, 33
1150 DATA 128, 91, 17, 43, 0
1160 DATA 205, 86, 5, 33, 92
1170 DATA 91, 34, 169, 91, 195
1180 DATA 128, 91, 33, 128, 91
1190 DATA 17, 58, 0, 205, 19

```

```

1200 DATA 0, 62, 233, 50, 176
1210 DATA 92, 38, 99, 46, 52
1220 DATA 243, 34, 120, 92, 62
1230 DATA 201, 50, 232, 205, 195
1240 DATA 0, 94, 175, 55, 221
1250 DATA 33, 0, 0, 17, 17
1260 DATA 0, 205, 86, 5, 201

```

GYROSCOPE

Melbourne House's latest Smash is one of those games that is in dire need of pokes. So here they are and I'm sure you will all agree that they are VERY useful.

```

5 REM GYROSCOPE POKES
10 BORDER 0: INK 0: PAPER 0:
CLS
20 RESTORE
30 LET TOT = 0
40 FOR I = 23296 TO 23379
50 READ A: LET TOT = TOT + A
+ A * PEEK (I-23296)
60 POKE I, A
70 NEXT I
80 IF TOT <> 1369766 THEN
PRINT FLASH 1; INK 7; "ERROR
IN DATA!!!": BEEP 1, 0: STOP
90 INPUT "LIVES (0-255) 0 =
INFINITE?": LIVES
100 IF LIVES THEN POKE 23360
LIVES: GO TO 120
110 POKE 23365, 0
120 INPUT "TIME BEFORE
GYROSCOPE STOPS (0-99) 0 =
INFINITE?": LINE T$
130 LET TIME = VAL T$: IF TIME
<> 0 THEN POKE 23355, INT
(TIME/10): POKE 23354, TIME -
10 * PEEK 23355: POKE 23370
, 61
200 PRINT AT 0, 5; "START
GYROSCOPE TAPE"
210 RANDOMIZE USR 23296
1000 DATA 1, 58, 0, 33, 182
1001 DATA 92, 205, 232, 25, 42
1002 DATA 75, 92, 237, 91, 83
1003 DATA 92, 237, 82, 68, 77
1004 DATA 235, 205, 232, 25, 49
1005 DATA 255, 93, 221, 33, 0
1006 DATA 64, 17, 0, 27, 55
1007 DATA 62, 255, 205, 86, 5
1008 DATA 48, 241, 221, 33, 0
1009 DATA 94, 17, 0, 162, 55
1010 DATA 62, 255, 205, 86, 5
1011 DATA 48, 241, 33, 0, 6
1012 DATA 34, 128, 207, 62, 7
1013 DATA 50, 230, 207, 62, 53
1014 DATA 50, 162, 210, 62, 0
1015 DATA 50, 10, 231, 50, 28
1016 DATA 231, 195, 194, 206
9999 STOP

```

PYRAMID

Still a good game now it is made that much easier by the addition of these pokes.

```

1 REM PYRAMID POKES: PRINT
AT 0, 7; "START PYRAMID
TAPE"
2 MERGE ""
5 GO TO 10
280 INPUT "START ENERGY (0-
999) ": LINE E$

```


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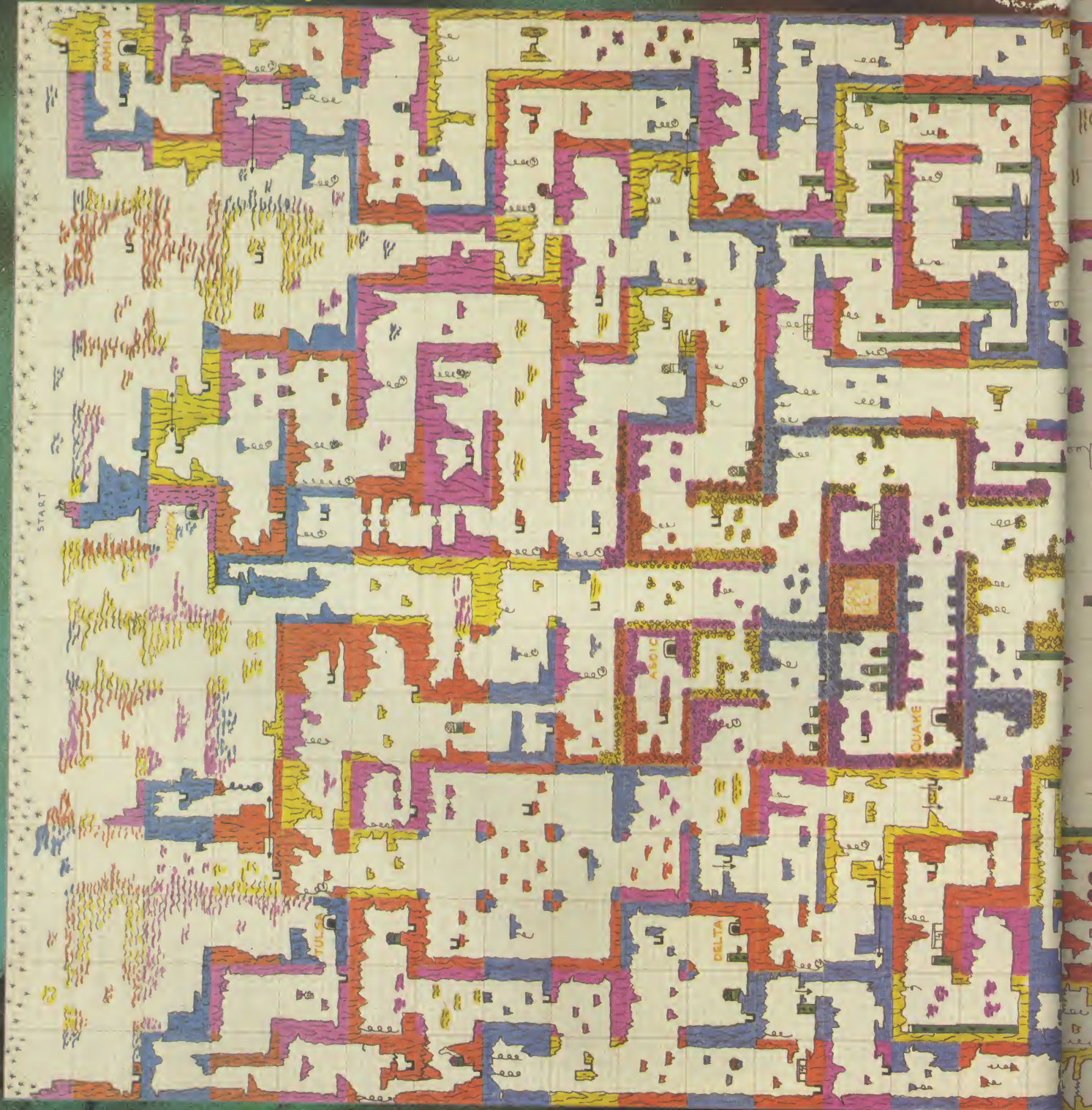
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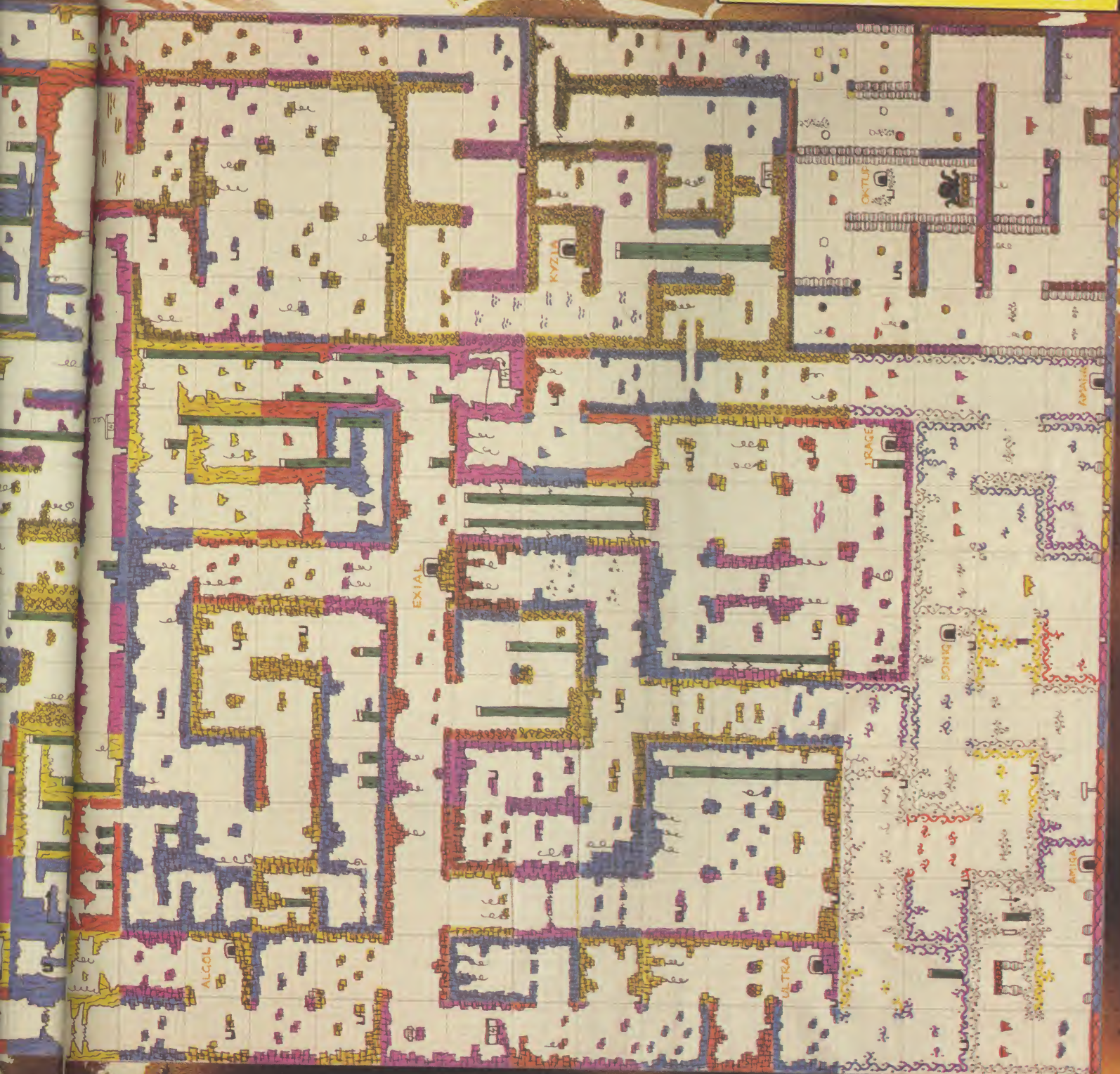
SMASH
TRAPS



CRYSTALS



HIGH
DENSITY
CLOUD





```
284 IF LEN E$ = 0 OR LEN E$ > 3
THEN GO TO 282
285 FOR I = 1 TO LEN E$
286 IF E$(I) >= "0" AND E$(I)
<= "9" THEN POKE 37310 - I * 3
, VAL E$(I)
288 NEXT I
```

CYLU

It was claimed by a bod at Firebird that it would be hard to crack the protection on this game. Despite that, here are the infinite lives pokes.

```
5 REM CYLU POKES
10 CLEAR 63999
20 LET TOT = 0
30 FOR I = 64000 TO 64234
40 READ A
50 LET TOT = TOT + A + A *
PEEK (I-64000)
60 POKE I, A
70 NEXT I
80 IF TOT <> 3318133 THEN
PRINT FLASH 1; "ERROR IN
DATA!!!"; BEEP 1,0: STOP
90 PRINT AT 0,8; "START CYLU
TAPE"
100 RANDOMIZE USR 64000
1000 DATA 49,0,0,221,33
1001 DATA 0,0,17,17,0
1002 DATA 175,55,205,86,5
1003 DATA 17,232,3,62,255
1004 DATA 55,205,86,5,33
1005 DATA 86,5,17,0,255
1006 DATA 1,175,0,237,176
1007 DATA 221,33,61,250,38
1008 DATA 255,221,110,0,125
1009 DATA 60,40,10,221,126
1010 DATA 1,119,221,35,221
1011 DATA 35,24,239,195,88
1012 DATA 250,80,132,113,134
1013 DATA 115,128,117,141,
118
1014 DATA 255,121,153,124,29
1015 DATA 126,132,128,116,
129
1016 DATA 255,142,145,143,
255
1017 DATA 146,17,255,49,20
1018 DATA 255,175,50,0,255
1019 DATA 33,0,0,34,1
1020 DATA 255,62,195,50,145
1021 DATA 255,33,175,255,34
1022 DATA 146,255,33,157,250
1023 DATA 17,175,255,1,76
1024 DATA 0,237,176,221,33
1025 DATA 0,64,17,0,28
1026 DATA 62,255,55,20,8
1027 DATA 21,243,62,15,211
1028 DATA 254,33,0,91,229
1029 DATA 219,254,31,230,32
1030 DATA 246,2,79,191,195
1031 DATA 21,255,221,124,60
1032 DATA 32,6,221,33,0
1033 DATA 0,24,2,229,225
1034 DATA 58,0,255,60,50
1035 DATA 0,255,254,16,32
1036 DATA 42,175,50,0,255
1037 DATA 229,42,1,255,35
1038 DATA 34,1,255,213,17
1039 DATA 30,193,237,82,209
1040 DATA 225,32,27,33,175
1041 DATA 50,34,61,91,33
1042 DATA 31,148,34,63,91
1043 DATA 253,33,22,220,243
1044 DATA 195,0,91,62,7
```

```
1045 DATA 61,32,253,237,95
1046 DATA 195,150,255,0,
9999 STOP
```

FAIRLIGHT

This is the first of the big routines but I'm sure you will agree that it is worth all that time typing it in, I've checked it out and it works perfectly. When you start the Fairlight tape from the start a piece of code is not loaded and the counter on the loading screen is disabled, do not worry about this because it is meant to happen.

```
1 REM FAIRLIGHT POKES
5 CLS
10 CLEAR 65535
20 LET TOT = 0
30 RESTORE
40 FOR I = 56000 TO 56407
50 READ A: LET TOT = TOT + A
+ A * INT (I-56028)
60 POKE I, A
70 NEXT I
80 IF TOT <> 9401761 THEN
PRINT FLASH 1; "ERROR IN
DATA!!!"; BEEP 1,0: STOP
90 PRINT AT 0,5; "START
FAIRLIGHT TAPE"
100 PRINT AT 1,1; "PLEASE
WAIT, I HAVEN'T CRASHED"
110 RANDOMIZE USR 56328
1000 DATA 195,223,218,0,0
1001 DATA 14,0,201,218,133
1002 DATA 11,171,222,24,111
1003 DATA 160,107,24,0,0
1004 DATA 91,0,0,178,220
1005 DATA 160,107,0,0,0
1006 DATA 64,243,49,195,218
1007 DATA 221,33,224,90,33
1008 DATA 224,87,17,224,255
1009 DATA 6,24,14,8,229
1010 DATA 37,13,32,251,125
1011 DATA 214,32,111,254,224
1012 DATA 40,4,124,198,8
1013 DATA 103,221,229,221,25
1014 DATA 16,231,28,62,8
1015 DATA 211,254,38,50,6
1016 DATA 156,62,22,205,214
1017 DATA 219,48,245,62,198
1018 DATA 184,48,240,37,32
1019 DATA 239,6,201,205,218
1020 DATA 219,48,230,120,254
1021 DATA 212,48,244,205,218
1022 DATA 219,48,220,62,195
1023 DATA 50,241,219,221,33
1024 DATA 221,218,17,2,0
1025 DATA 237,95,6,18,46
1026 DATA 1,120,6,215,205
1027 DATA 214,219,208,62,228
1028 DATA 184,203,21,62,22
1029 DATA 210,68,219,58,220
1030 DATA 218,133,50,220,218
1031 DATA 101,58,53,221,170
1032 DATA 171,221,172,221,
173
1033 DATA 173,221,119,0,6
1034 DATA 10,203,99,40,13
1035 DATA 58,53,221,198,138
1036 DATA 131,146,50,53,221
1037 DATA 5,5,5,58,53
1038 DATA 221,198,103,50,53
1039 DATA 221,221,35,27,122
1040 DATA 179,194,65,219,195
1041 DATA 143,219,42,221,218
1042 DATA 17,246,3,237,82
1043 DATA 194,201,220,33,170
1044 DATA 219,34,141,219,221
1045 DATA 225,17,32,0,6
1046 DATA 2,195,65,219,209
1047 DATA 122,179,202,188,
219
1048 DATA 213,221,225,19,17
1049 DATA 32,0,6,4,195
1050 DATA 65,219,124,33,203
1051 DATA 219,34,141,219,103
1052 DATA 203,124,6,1,195
1053 DATA 205,219,6,6,209
1054 DATA 122,179,200,221,
225
1055 DATA 195,65,219,205,234
1056 DATA 219,208,195,221,
219
1057 DATA 123,230,7,195,227
1058 DATA 219,62,0,195,232
1059 DATA 219,62,19,61,32
1060 DATA 253,167,4,32,3
1061 DATA 201,201,220,219,
254
1062 DATA 31,200,169,230,32
1063 DATA 40,241,121,47,79
1064 DATA 62,0,246,8,211
1065 DATA 254,55,201,1,58
1066 DATA 0,33,182,92,205
1067 DATA 232,25,221,33,0
1068 DATA 0,17,93,5,62
```

```
1041 DATA 143,219,42,221,218
1042 DATA 17,246,3,237,82
1043 DATA 194,201,220,33,170
1044 DATA 219,34,141,219,221
1045 DATA 225,17,32,0,6
1046 DATA 2,195,65,219,209
1047 DATA 122,179,202,188,
219
1048 DATA 213,221,225,19,17
1049 DATA 32,0,6,4,195
1050 DATA 65,219,124,33,203
1051 DATA 219,34,141,219,103
1052 DATA 203,124,6,1,195
1053 DATA 205,219,6,6,209
1054 DATA 122,179,200,221,
225
1055 DATA 195,65,219,205,234
1056 DATA 219,208,195,221,
219
1057 DATA 123,230,7,195,227
1058 DATA 219,62,0,195,232
1059 DATA 219,62,19,61,32
1060 DATA 253,167,4,32,3
1061 DATA 201,201,220,219,
254
1062 DATA 31,200,169,230,32
1063 DATA 40,241,121,47,79
1064 DATA 62,0,246,8,211
1065 DATA 254,55,201,1,58
1066 DATA 0,33,182,92,205
1067 DATA 232,25,221,33,0
1068 DATA 0,17,93,5,62
```

```
1069 DATA 255,55,205,86,5
1070 DATA 48,241,62,55,50
1071 DATA 53,221,33,63,220
1072 DATA 17,178,220,1,25
1073 DATA 0,237,176,175,211
1074 DATA 254,33,244,1,118
1075 DATA 43,124,181,32,250
1076 DATA 195,223,218,33,0
1077 DATA 0,34,173,254,34
1078 DATA 174,254,34,234,254
1079 DATA 34,236,254,34,237
1080 DATA 254,34,192,241,34
1081 DATA 193,241,201
1090 DATA 17,0,27,205,86
1100 DATA 5,205,122,91,62
1110 DATA 255,55,221,33,0
1120 DATA 96,17,0,136,205
1130 DATA 86,5,205,122,91
1140 DATA 62,255,55,221,33
1150 DATA 128,91,17,43,0
1160 DATA 205,86,5,33,92
1170 DATA 91,34,169,91,195
1180 DATA 128,91,33,128,91
1190 DATA 17,58,0,205,19
1200 DATA 0,62,233,50,176
1210 DATA 92,38,99,46,52
1220 DATA 243,34,120,92,62
1230 DATA 201,50,232,205,195
1240 DATA 0,94,175,55,221
1250 DATA 33,0,0,17,17
1260 DATA 0,205,86,5,201
9999 STOP
```

```
1055 DATA 195,65,219,205,234
1056 DATA 219,208,195,221,
219
```

GYRON

The second biggy routine may take a while to key in but it does work! This program stops the towers from firing and it also provides a pause key. Press 0 to pause and 1 to resume play.

1 REM GYRON POKES

```
5 C8,244,205,218
1022 DATA 219,48,220,62,195
1023 DATA 50,241,219,221,33
1024 DATA 221,218,17,2,0
1025 DATA 237,95,6,18,46
1026 DATA 1,120,6,215,205
1027 DATA 214,219,208,62,228
1028 DATA 184,203,21,62,22
1029 DATA 210,68,219,58,220
1030 DATA 218,133,50,220,218
1031 DATA 101,58,53,221,170
1032 DATA 171,221,172,221,
173
1033 DATA 173,221,119,0,6
1034 DATA 10,203,99,40,13
1035 DATA 58,53,221,198,138
1036 DATA 131,146,50,53,221
1037 DATA 5,5,5,58,53
1038 DATA 221,198,103,50,53
1039 DATA 221,221,35,27,122
1040 DATA 179,194,65,219,195
1041 DATA 143,219,42,221,218
1042 DATA 17,246,3,237,82
1043 DATA 194,201,220,33,170
1044 DATA 219,34,141,219,221
1045 DATA 225,17,32,0,6
1046 DATA 2,195,65,219,209
1047 DATA 122,179,202,188,
219
1048 DATA 213,221,225,19,17
1049 DATA 32,0,6,4,195
1050 DATA 65,219,124,33,203
1051 DATA 219,34,141,219,103
1052 DATA 203,124,6,1,195
1053 DATA 205,219,6,6,209
1054 DATA 122,179,200,221,
225
1055 DATA 195,65,219,205,234
1056 DATA 219,208,195,221,
219
1057 DATA 123,230,7,195,227
1058 DATA 219,62,0,195,232
1059 DATA 219,62,19,61,32
1060 DATA 253,167,4,32,3
1061 DATA 201,201,220,219,
254
1062 DATA 31,200,169,230,32
1063 DATA 40,241,121,47,79
1064 DATA 62,0,246,8,211
1065 DATA 254,55,201,1,58
1066 DATA 0,33,182,92,205
1067 DATA 232,25,221,33,0
1068 DATA 0,17,93,5,62
1069 DATA 255,55,205,86,5
1070 DATA 48,241,62,55,50
1071 DATA 53,221,33,63,220
1072 DATA 17,178,220,1,25
1073 DATA 0,237,176,175,211
1074 DATA 254,33,244,1,118
1075 DATA 43,124,181,32,250
1076 DATA 195,223,218,33,0
1077 DATA 0,34,173,254,34
1078 DATA 174,254,34,234,254
1079 DATA 34,236,254,34,237
1080 DATA 254,34,192,241,34
1081 DATA 193,241,201
1090 DATA 17,0,27,205,86
1100 DATA 5,205,122,91,62
1110 DATA 255,55,221,33,0
1120 DATA 96,17,0,136,205
1130 DATA 86,5,205,122,91
1140 DATA 62,255,55,221,33
1150 DATA 128,91,17,43,0
1160 DATA 205,86,5,33,92
1170 DATA 91,34,169,91,195
1180 DATA 128,91,33,128,91
1190 DATA 17,58,0,205,19
1200 DATA 0,62,233,50,176
1210 DATA 92,38,99,46,52
1220 DATA 243,34,120,92,62
1230 DATA 201,50,232,205,195
1240 DATA 0,94,175,55,221
1250 DATA 33,0,0,17,17
1260 DATA 0,205,86,5,201
9999 STOP
```





ARCADE

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Crash

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Weeks in Charts - 6

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* Entered UK Charts
1st July 1985
Weeks in Charts - 6

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* Entered UK Charts
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Weeks in Charts - 18

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PLAYING TIPS



FIGHTING WARRIOR

When you defeat an enemy this routine restores all your energy so you stand a good chance of completing it. Save the routine to tape for future use.

```
1 REM FIGHTING WARRIOR
5 CLEAR 65535
10 LET TOT = 0
20 FOR I = 23296 TO 23401
30 READ A: LET TOT = TOT + A
+ A PEEK (I-23296)
40 POKE I, A
50 NEXT I
60 IF TOT <> 1300323 THEN
PRINT "ERROR IN DATA!!!!":
BEEP 1,0: STOP
70 INK 0: PAPER 0: POKE 23624
,56: CLS
80 PRINT AT 0,1: "START
WARRIOR TAPE"
90 RANDOMIZE USR 23296
1000 DATA 221,33,0,0,17
1001 DATA 17,0,175,55,205
1002 DATA 86,5,62,255,17
1003 DATA 200,0,55,205,86
1004 DATA 5,17,17,0,175
1005 DATA 55,205,86,5,17
1006 DATA 200,0,62,255,55
1007 DATA 205,86,5,221,33
1008 DATA 0,128,17,250,0
1009 DATA 62,130,55,205,86
1010 DATA 5,62,195,50,217
1011 DATA 128,33,65,91,34
1012 DATA 218,128,195,0,128
1013 DATA 229,33,62,16,34
1014 DATA 37,64,33,0,50
1015 DATA 34,39,64,33,28
1016 DATA 239,34,41,64,33
1017 DATA 0,195,34,43,64
1018 DATA 33,197,235,34,45
1019 DATA 64,225,62,11,61
1020 DATA 32,253,0,195,222
1021 DATA 128
```

KNIGHT LORE

Many of you had trouble with the routines printed in issue 14 for this game so here is a revised version which you shouldn't have problems with.

```
5 REM KNIGHT LORE POKES
10 CLEAR 65535
20 RESTORE
30 LET TOT = 0
40 FOR I = 65024 TO 65178
50 READ A: LET TOT = TOT + A
+ A PEEK (I-65024)
60 POKE I, A
70 NEXT I
80 IF TOT <> 2713224 THEN
PRINT FLASH 1: "ERROR IN
DATA!!!!": BEEP 1,0: STOP
100 PRINT "CHANGE INTO
WOLF (Y/N) ?": GO SUB 500:
```

```
PRINT K$: IF K$ = "N" THEN
PRINT "YOU ALSO GET INFIN-
ITE TIME!!!!": GO TO 130
110 POKE 65107,58: POKE
65110,58: POKE 65113,58
120 PRINT "INFINITE TIME (Y/N)
?": GO SUB 500: PRINT K$: IF
K$ = "N" THEN POKE 65099,58
130 PRINT "CAN YOU BE
KILLED (Y/N) ?": GO SUB 500:
PRINT K$: IF K$ = "Y" THEN
POKE 65103,58
200 PRINT $1: AT 0,5: "START
KNIGHTLORE TAPE"
210 RANDOMIZE USR 65024
500 IF INKEY$ <> "" THEN GO
TO 500
510 POKE 23658,8: LET K$ =
INKEY$: IF K$ <> "Y" AND K$
<> "N" THEN GO TO 510
520 RETURN
1000 DATA 33,0,92,17,1
1001 DATA 92,1,0,162,117
1002 DATA 237,176,221,33,0
1003 DATA 0,17,13,4,62
1004 DATA 255,55,205,86,5
1005 DATA 48,229,6,200,118
1006 DATA 16,253,205,103,254
1007 DATA 251,6,100,118,16
1008 DATA 253,49,255,255,33
1009 DATA 0,64,17,0,27
1010 DATA 205,103,254,205
,129
1011 DATA 254,33,0,97,17
1012 DATA 0,125,251,6,100
1013 DATA 118,16,253,205,103
1014 DATA 254,205,129,254
,175
1015 DATA 50,30,196,175,50
1016 DATA 63,209,175,50,161
1017 DATA 195,50,162,195,50
1018 DATA 163,195,195,0,97
1019 DATA 6,0,167,205,237
1020 DATA 5,208,201,6,25
1021 DATA 118,16,253,243,205
1022 DATA 95,254,120,254,40
1023 DATA 56,248,1,188,2
1024 DATA 11,120,177,32,251
1025 DATA 205,95,254,201,54
1026 DATA 1,205,95,254,205
1027 DATA 95,254,208,120,254
1028 DATA 13,203,22,48,242
1029 DATA 126,47,119,35,27
1030 DATA 122,179,32,231,201
9999 STOP
```

HALLS OF THE THINGS

Another set of pokes for this game but they do some additional things.

```
5 REM HALLS POKES
10 CLEAR 65535
20 RESTORE: LET TOT = 0
30 FOR I = 64000 TO 64074
40 READ A: LET TOT = TOT + A
+ A PEEK (I-64000)
50 POKE I, A
60 NEXT I
70 IF TOT <> 1065524 THEN
PRINT FLASH 1: "ERROR IN
DATA!!!!": BEEP 1,0: STOP
80 POKE 23658,0
```

```
100 PRINT "CAN YOU BE
WOUNDED (Y/N) ?": GO SUB
500: PRINT K$: IF K$ = "N"
THEN POKE 64068,0
110 PRINT "UNLIMITED MAGIC
(Y/N) ?": GO SUB 500: PRINT
K$: IF K$ = "Y" THEN POKE
64053,0: POKE 64058,0: POKE
64063,0
120 PRINT "UNLIMITED
ARROWS (Y/N) ?": GO SUB
500: PRINT K$: IF K$ = "Y"
THEN POKE 64048,0
200 PRINT AT 0,1: "START
HALLS OF THE THINGS TAPE"
210 RANDOMIZE USR 64000
500 IF INKEY$ <> "" THEN GO
TO 500
510 LET K$ = INKEY$: IF K$ <>
"Y" AND K$ <> "N" THEN GO
TO 510
520 RETURN
1000 DATA 49,0,0,1,58
1001 DATA 0,33,182,92,205
1002 DATA 232,25,221,33,61
1003 DATA 92,17,195,12,62
1004 DATA 255,55,205,86,5
1005 DATA 48,241,33,64,96
1006 DATA 17,0,192,1,46
1007 DATA 33,237,176,33,47
1008 DATA 250,34,216,192,195
1009 DATA 0,192,62,61,50
1010 DATA 221,126,62,2,50
1011 DATA 3,130,62,1,50
1012 DATA 100,131,62,30,50
1013 DATA 126,140,62,128,50
1014 DATA 205,127,195,0,96
9999 STOP
```

DYNAMITE DAN

Next month will see some infinite lives pokes for this game but these should keep you going for the moment!

```
5 REM DYNAMITE POKES
10 CLEAR 63999
20 LET TOT = 0
30 FOR I = 64000 TO 64164
40 READ A: LET TOT = TOT + A
+ A PEEK (I-64000)
50 POKE I, A
60 NEXT I
70 IF TOT <> 2611775 THEN
PRINT FLASH 1: "ERROR IN
DATA!!!!": BEEP 1,0: STOP
80 POKE 23658,8
100 PRINT "DO YOU WANT
CREATURES (Y/N) ?": GO SUB
500: PRINT A$
110 IF A$ = "N" THEN POKE
64151,50
120 PRINT "TELEPORTS (Y/N)
?": GO SUB 500: PRINT A$
130 IF A$ = "N" THEN POKE
64154,50
140 PRINT "KILLER RAYS
(Y/N) ?": GO SUB 500: PRINT
A$
150 IF A$ = "N" THEN POKE
64157,50
160 PRINT AT 21,0: "ARE
THESE OPTIONS OK (Y/N) ?":
GO SUB 500
```

```
165 CLS
170 IF A$ = "N" THEN POKE
64151,33: POKE 64154,33:
POKE 64157,33: GO TO 100
180 PRINT AT 0,0: "START
DYNAMITE DAN TAPE"
190 RANDOMIZE USR 64000
500 IF INKEY$ <> "" THEN GO
TO 500
510 LET A$ = INKEY$
520 IF A$ <> "Y" AND A$ <>
"N" THEN GO TO 510
525 BEEP .25,40
530 RETURN
1000 DATA 49,132,253,221,33
1001 DATA 0,0,17,17,0
1002 DATA 175,55,205,86,5
1003 DATA 17,232,3,62,255
1004 DATA 55,205,86,5,221
1005 DATA 33,34,254,17,144
1006 DATA 1,62,7,55,205
1007 DATA 86,5,1,254,1
1008 DATA 33,34,254,126,237
1009 DATA 103,126,238,165
,119
1010 DATA 35,11,120,177,32
1011 DATA 243,243,33,71,250
1012 DATA 17,163,255,1,92
1013 DATA 0,237,176,195,163
1014 DATA 255,62,132,17,0
1015 DATA 24,221,33,0,64
1016 DATA 205,171,254,17,0
1017 DATA 4,221,33,255,91
1018 DATA 205,42,255,17,225
1019 DATA 1,221,33,0,0
1020 DATA 205,250,254,17,29
1021 DATA 159,221,33,28,250
1022 DATA 205,42,255,33,192
1023 DATA 93,1,48,117,126
1024 DATA 237,103,126,238
,230
1025 DATA 119,35,11,120,177
1026 DATA 32,243,33,28,250
1027 DATA 17,28,255,1,29
1028 DATA 159,237,184,33,16
1029 DATA 167,34,54,92,62
1030 DATA 201,33,146,229,33
1031 DATA 92,230,33,213,230
1032 DATA 195,0,200,0,0
9999 STOP
```

CREDITS

PAUL STEPHENSON Halls of the Things
HOWARD GRIST of Sheffield: Wheelie, Full Throttle, Avalon, WTHAS and Cavern Fighter.
ROGER NUTTER of Brigg: JSW II, Keith Walker of Birmingham: Monty on the Run, Spyhunter, Nightshade and Tapper. Phil Churchyard of Grantham: Fairlight, Gyron, Gyroscope, Fighting Warrior, Dynamite Dan, Pyramid, Halls of the Things, Nightshade, Knightlore and Cylu. Piers Pettman of Amersham: Ad Astra

Ok then that is enough pokes for the Christmas issue. If you have got any pokes please send them in because I may have another Pokes Special before the next Christmas Issue!

N.O.M.A.D



ocean

In the vastness of space lies the heart of an Intergalactic Criminal Network. TALOS and at its head the evil CYRUST. GROSS. A last ditch attempt by the Free Worlds to rid the Universe of this seemingly unstoppable force has called on the services of the NEMESIS ORGANISATION, a hardened cadre of humanoid and robotic free booters who have assigned NOMAD (Nemesis Organisation Mobile Attack Droid) to penetrate GROSS's heavily armed homeland and destroy this vile despot once and for all. Your mission must SUCCEED. You are the NOMAD controller.

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HOTLINE TOP 30

- 1 / 1) **WAY OF THE EXPLODING FIST** Melbourne House
- 2 / 2) **HYPERSPORTS** Imagine
- 3 / 6) **FAIRLIGHT** The Edge
- 4 / 9) **SPY VS SPY** US Gold
- 5 (11) **HIGHWAY ENCOUNTER** Vortex
- 6 / 7) **NIGHTSHADE** Ultimate
- 7 (14) **SPY HUNTER** US Gold
- 8 (—) **STARQUAKE** Bubble Bus
- 9 / 8) **MATCHDAY** Ocean
- 10 / 3) **NODES OF YESOD** Odin

Melbourne House retains the top slot this month with *Way of the Exploding Fist*, with a couple of big jumps and falls livening up the charts. **Vortex** will no doubt be pleased about the leap *Highway Encounter* makes, as will **Microsphere** about *Skool Daze* — perhaps new interest following the release of *Back to Skool*, and *Spy Hunter*'s still around! A total of nine new entries (or re-entries) this month, with the biggest fall being taken by Ocean's Daley Thompson's *Decathlon*.

- 11 / 4) **FRANK BRUNO'S BOXING** Elite
- 12 (10) **SHADOWFIRE** Beyond
- 13 (16) **DUN DARACH** Gargoyle Games
- 14 (12) **DYNAMITE DAN** Mirrorsoft
- 15 (15) **FRANKIE GOES TO HOLLYWOOD** Ocean
- 16 (13) **ALIEN 8** Ultimate
- 17 (23) **MARSPORT** Gargoyle Games
- 18 (—) **DT'S SUPERTEST** Ocean
- 19 (—) **FIGHTING WARRIOR** Melbourne House
- 20 (21) **KNIGHTLORE** Ultimate

- 21 (—) **WORLD SERIE S BASEBALL** Imagine
- 22 (—) **TAPPER** US Gold
- 23 (—) **STARION** Melbourne House
- 24 (—) **SCHOOL DAZE** Microsphere
- 25 (—) **MATCH POINT** Psion
- 26 / 5) **DALEY THOMPSON'S DECATHALON** Ocean
- 27 (26) **BRUCE LEE** US Gold
- 28 (19) **LORDS OF MIDNIGHT** Beyond
- 29 (—) **ARNHEM** CCS
- 30 (—) **WIZARD'S LAIR** Bubble Bus

HOTLINE CHART WINNERS

Top dog this month is **Graham Morris** of Cranleigh, with **D Ballard-Adams** of Millom, Cumbria, **Mark Griffin** from Galway, Ireland, **Des O'Connor** (not THE Des . . . ?) of Wembley and **Mrs Middleton** from Sheffield running up, so to speak.

ADVENTURE TOP 30 CHART

Perhaps not too much of a surprise to see Gargoyle's *Marsport* hit the top this month — but otherwise the Adventure Chart seems to be shuffling a very familiar group of games around, each moving a couple of positions up or down. No new entries this month, but four worthy re-entries. Oh, and before finishing this little blurb, mention ought to be made of the little slip we made last month. *Valkyrie 17* is distributed by **Palace**, as we said, but was written by the **Ram Jam Corporation**, as we didn't. Sorry chaps!

- 1 (4) **MARSPORT** Gargoyle Games
- 2 (2) **RED MOON** Level 9
- 3 (3) **DUN DARACH** Gargoyle Games
- 4 (1) **FOURTH PROTOCOL** Hutchinson
- 5 (5) **DOOMDARK'S REVENGE** Beyond
- 6 (6) **KENTILLA** Micromega
- 7 (7) **LORDS OF TIME** Level 9
- 8 (9) **SHADOWFIRE** Beyond
- 9 (—) **OUT OF THE SHADOWS** Mizar
- 10 (10) **LORDS OF MIDNIGHT** Level 9

- 11 (11) **WITCHES CAULDRON** Mikro-Gen
- 12 (14) **RETURN TO EDEN** Level 9
- 13 (15) **DRAGONTORC** Hewson Consultants
- 14 (19) **HAMPSTEAD** Melbourne House
- 15 (—) **SPIDERMAN** Adventure International
- 16 (16) **SHERLOCK** Melbourne House
- 17 (17) **TIR NA NOG** Gargoyle Games
- 18 (—) **COLOSSAL ADVENTURE** Level 9
- 19 (18) **URBAN UPSTART** Richard Shepherd
- 20 (29) **VALKYRIE 17** The Ram Jam Corporation

- 21 (20) **GREMLINS** Adventure International
- 22 (21) **THE HOBBIT** Melbourne House
- 23 (26) **EMERALD ISLE** Level 9
- 24 (22) **AVALON** Hewson Consultants
- 25 (23) **EUREKA** Domark
- 26 (24) **SNOWBALL** Level 9
- 27 (—) **ESPIONAGE ISLAND** Artic
- 28 (25) **VALHALLA** Legend
- 29 (28) **ORACLE'S CAVE** Dorcas
- 30 (27) **THE HULK** Adventure International

ADVENTURE CHART WINNERS

Hurrah for **M Manney**, who comes out of the Adventure Chart Chest this month. Lots of goodies coming your way soon. **Mark Smith** from Chorley, Lancs, **Karl Aildred** of Cadishead, Manchester, **A Melvin** from Burwell and **Nicholas Abarno** who hails from Croxley Green in Rickmansworth




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MONOPOLY	JAN 8	*	*	*	*	FEB 86
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PLAYING TIPS

It hardly seems a year ago that I made my debut Playing Tips (I had been writing odds and ends for a couple of months before) but there again it just goes to show that Lloyd Mangram's saying is true.

'Time flies when you're being overworked and underpaid.'

Those of you who have been paying close attention to the Playing Tips column will have noticed that since last January I have risen through the ranks and am now head of the Playing Tips Dept for CRASH with my own desk and personalised chair (it's got a sticker underneath saying that it's mine). Of course I have to fight running battles to keep them both, for being at Skool during the day means that my property is under continual attack. So far this year the following has gone missing:

2 Packets of Worcester Sauce French Fries

2 Struts that hold up my In and Out trays, now the contents of both are mixed up

½ a Yorkie Bar nicked while I was cleaning the windows, later I found out that Jeremy (On diet so must eat) Spencer had consumed it.

1 Packet of Acid French Fries

¼ of a can of Coke previously spiked with Washing up liquid

10 Biros (I nicked these from someone else's desk in the first place).

Another couple of packets of Asbestos French Fries

1 Packet of Mixed Nuts and Raisins which still had the Brazil nuts in.

Music Tapes

1 Stereo (hard to conceal so I found it sometime later in the clutches of a sleeping Liddon)

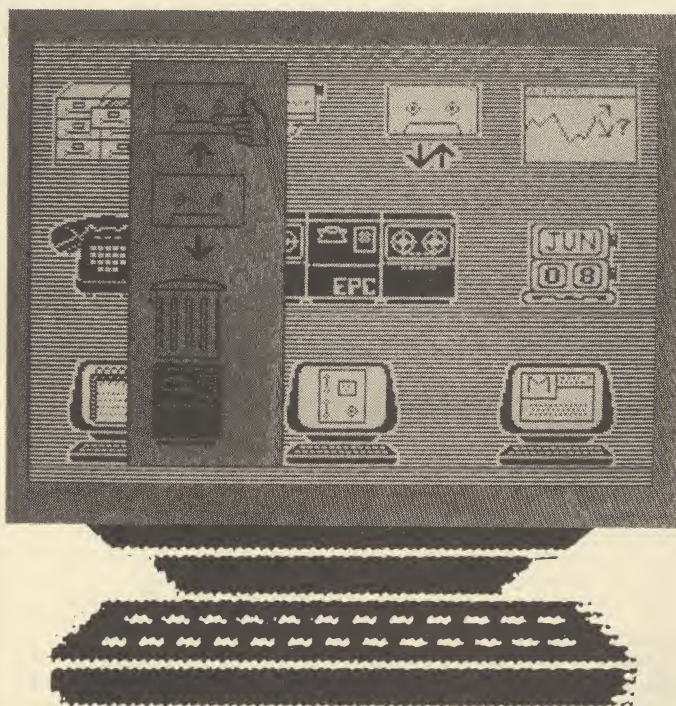
And yet more packets of Entrail dissolving French Fries.

Luckily my desk hasn't been under that much threat but if Rignall's ego grows anymore (is that possible) then it will surely need something to sit on!

This year has been an excellent one for tips and games. The standard of software released now surpasses that which appeared this time last year. Games that have caught my eye this year are *The Fourth Protocol*, *Marsport*, *Dragontorc*, *Shadowfire*, *Robin of the Wood*, *Astroclone*, *Elite*, and *Fairlight*. Also listed below is my all time top 10 on the Spectrum:

LORDS OF MIDNIGHT • MARSPORE • DOOMDARK'S REVENGE • ELITE • DEATH CHASE • DRAGONTORC • STARSTRIKE • TIR NA NOG • ROBIN OF THE WOOD • KNIGHT LORE

Even by today's standards many of these are still excellent games which I would recommend to anyone. Most of them have been featured heavily in the tips section but I still want information on the Special Mission in *Elite*.



THE FOURTH PROTOCOL

Since I first published some tips for this game a few months back I have been deluged with pleas for help. Luckily Steven Stewart of Knightswood has sent in some help which should get you through the remainder of the first part of the game and some of the second. If anyone has got any more tips they would be greatly appreciated.

The answers to Plumbs

questions are:

- (1) Faulkner
- (2) Swedish
- (3) Stenberij
- (4) Nilson
- (5) Fingerprints
- (6) Gaza Strip
- (7) False Flag

If you type these in you will get the password ASPEN. This word is used for the FIRST lift, ie the one in Gordon St.

In the second part, examine the coat to find the key for the drawer. This gives you the tube map and the wallet. After taking the computer, you must go to

the filing cabinet and type in 'Preston'. This gives you an I.D. card. Now go to the second floor to receive a message from B Harcourt-Smith. Do not take the documents or the folder out of Gordon St. or you will be arrested. To get into Sentinel House you need your I.D. card so don't drop it.

In Sentinel House, you can drop most things in your office but not the I.D. remember. You will receive a piece of paper from Penfold which tells you a poem. It reads

'In Xanadu did Kubla Khan a stately pleasure . . .'

If you type 'Code' into the computer it tells you this:

'See glossary, so let X equal 3'

This means you must do this to the poem:

In Xanadu did Kublai Khan a stately pleasure
12 3456789 111 11111 1222 2
2222223 33333333
012 345678 9012 3 4567890
12345678

You then look up the letters in ASPEN to get an eight-figured Number. Note you must first

use the first letter in the poem, ie take the A in ASPEN to be 4 . . .

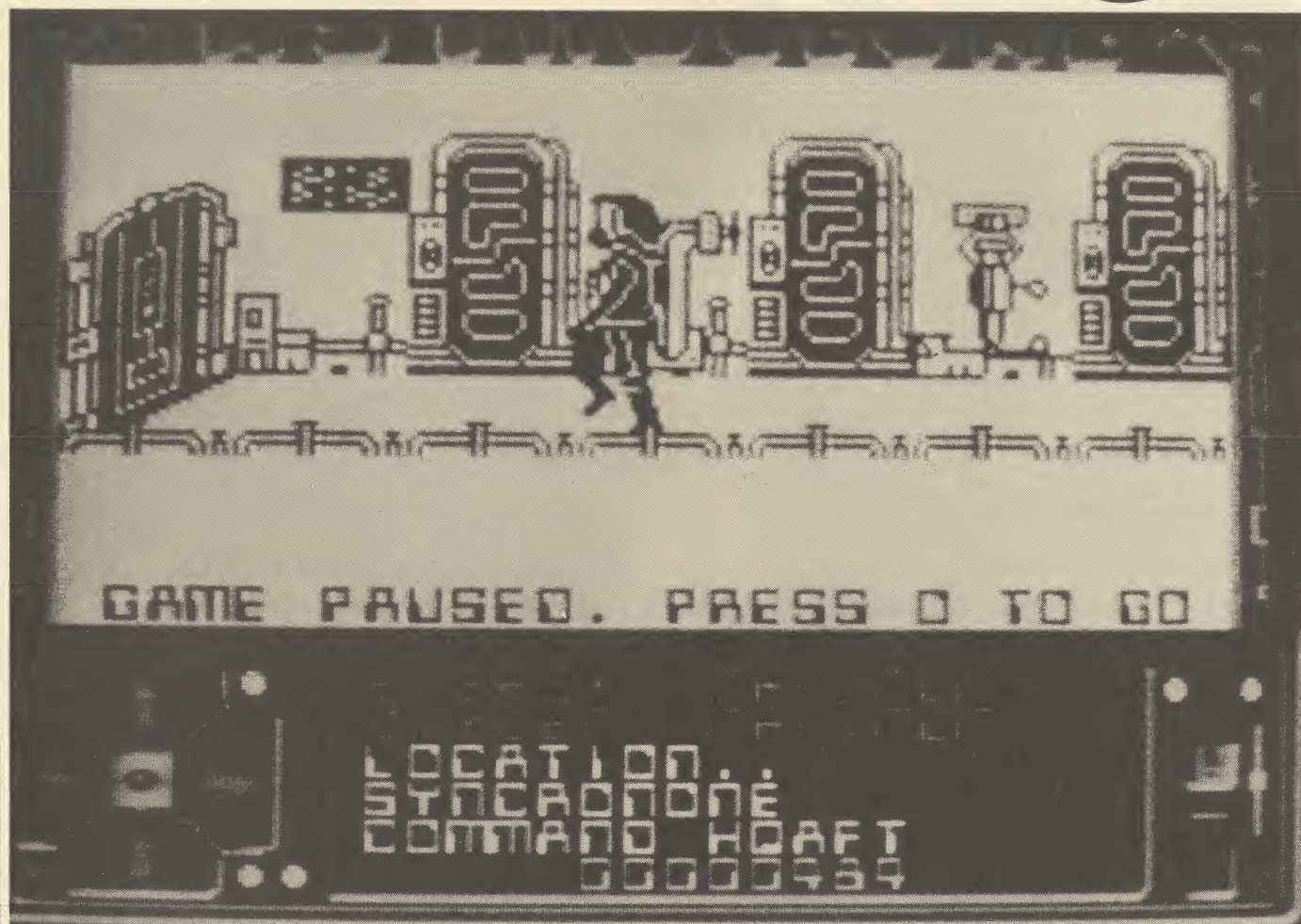
This lets you get into the lift. On the first floor you must examine the teleprinter, then run a search on BREMERHAVEN (do not worry when nothing happens). Then go and check the other printer. If you don't do this in the order shown then you won't find anything. What you do find is TWO telephone numbers for two ships. Mistral - 02726514 and Auslander - 0255502. You only need to phone the Mistral number because the Auslander does not leave its dock, but you must phone Mistral because when you go to Bristol (Bristol being the docking place of the ship) you must go to Bus platform One and wait for a bus. This takes you to the docks where, after finding the ship, you get a piece of paper from the captain of the ship. Next you must take the briefcase to Crick in the hobbyists shop at Boston Manor, you should now have about 33%

ATIC ATAC

If you're the proud owner of this game and STILL have not completed it then dig it out, load it up and follow these directions as sent in by Thomas Irvine of Alington but they only work on your first go.

Down left, pick up green key left, left, left, left, up, up, up, right, right, fall to Golden Key room and pick up Golden Key. Down

right, down right, right, right, beware of the devil. Down, down, right. Through bookcase up, through bookcase, pick up letter G of the key. Through bookcase, down, through bookcase down, through bookcase left, up, up, left, left, down, left, up, up, right, down, left, down, left, left, down left. Pick up AC of key. Right up, right, right, up, up, up. Right, down, left, left, down, down. Pick up handle of key. Up, up, right, right, up right and you've finished the game.



ASTROCLONE

Continuing the saga of the Astroclones' quest against the Seiddab, Steve Turner takes up the story.

FRONTIOS AND SPECTROS

Two more bases were isolated. Frontios Galactic Outpost had proved to be virtually defenceless. A locked door was a problem until it was short circuited with a computer. This was charged up by smashing a terminal with a hammer. An Astro Clone found death in some alien caves hidden behind a door. There, two thousand years ago, the Sei had first encountered the malevolent snake like-Kri; ending their civilisation. In the narrow tunnels Kri pods erupted. The young Kri were deadly if touched but as yet unable to send the deadly mind-bolts that the adults used as their means of attack.

The Clone squeezed past. After a deadly encounter with many snappers a wire was found. This was used to fish a transmit card from an old

burrow. The wire also proved useful in shorting out the last terminal, shutting the base down. Strange signs were found in two of the rooms.

On Spectros the Move maintenance droids were quickly despatched with few losses. A destruct device when held in the hand proved able to demolish any droid in the base, this was used to great effect and the Astroclones proceeded with minimal difficulty. A detector was used to find three craftily hidden artifacts, an Isocase, its sonic key and a pass. The Isocase contained the Acron Device, the only weapon able to destroy the Kri which up until now had wrought many casualties on the invading party. The pass opened two doors. Behind one a very small unmoveable object was heavily guarded by a terminal issuing bolts of pure energy. Many rooms were guarded by the ultimate class of droids the Battle Cyborg, floating on their antigrav pads they were a deadly opponent causing many losses. In two rooms energy balls blossomed out of

nowhere. Their invisible creation devices when shot with laser revealed two more securipasses. Behind the locked doors code cards and a wire were found. The cards deactivated the strange defence terminal, the wire shorted the launch terminal revealing the exit beamer.

SYNCRON HQ

At last the Sei headquarters had been found; it was here that the six messages were hidden by the last of the Sei in their last desperate attempt to fight off the Kri.

Syncon HQ was defended by spherical sentinel droids. Luckily for the Clone force these were an earlier class without the dreaded phased beam weaponry of later Cyborg models. Still, resistance was tough but eventually the droids succumbed to the powerful Clone laser fire. Locked doors were encountered but a small utility robot when powered with a battery proved able to control these and all the beamers on the base. The control room was cleared of droids — not an easy

task but one that resulted in few losses on the Clones' part. One owned a sonic key, opening an Isocase containing a cassette with a C64 program captured twenty years before from an Earth computer museum. Wondering what a Llama was he inserted the program into a drive. The launch computer promptly freaked out.

The HQ pass gave access to a beam room which the robot activated. The Clone beamed down to a crystal mine guarded by deadly laser beaming mine droids. Many clones were lost before the mine was cleared but the effort was worth it. Two messages were found down tunnels, another two using an autograb to fish behind a rock and in a hole. A message on the ceiling had to be shot down. The final message had to be blasted out of a heap of rock. Explosives were placed and the detonator pushed. A code card 'Alpha' was also revealed. The six messages were carefully pieced together — here was all the information the Clones needed to complete the mission! But first Termina had to be taken ...

LIBERATOR · LIBERATOR · LIBERATOR · LIBERATOR · LIBERATOR · LIBERATOR · LIBERATOR · LIBERATOR · LIBERATOR



MARSPORT

Last month I did publish some tips for this excellent game but you may not have seen them because they were tagged on the end of the *Shadow of the Unicorn* tips. So here they are again with a few extra tips to help you complete phase one. Thanks to Paul Fisher of Kingsthorpe and a cast of thousands for this information.

1. First go to to Elis Section G and get gun permit. Now proceed to Daly Section D and put gun permit in key locker, take gun go to charge locker and deposit the gun in it. This charges the gun and you are now ready for the enemy but remember you can only shoot the warriors with this gun not the Warlords!
2. Go to Daly Section C and get the flour then to Section A and get baking tin and to Section D to get water. Put these in a factor unit to make a cake. Put the cake in the key locker and the bakery is now open.
3. Now go to Daly Section G and get the charcoal. Once you have done this then go to Joly Section H and get the gauze. Take a chute to laxa level Section C and put these in factor unit. This will make a gas mask. Go in the

danger door here and when bomb has exploded put gas mask in locker for future use.

4. Go to laxa Section G to the Map room, take Earth map to Section A (via the Gas Bomb). Go into the icecream room and get the ice pack. Go to Gill Level Section E, put the Earth map in the key locker, this opens the soil depot.
5. Take ice pack to Gill Level Section C and put it in the key locker. This opens the hot water door. Get the geranium from inside.
6. Go to Joly Level Section H and put the geranium in the key locker to open the plant room door.
7. Go to laxa Level Section H and get the glass then go to Section G and enter the map room, get the sun chart and go to Section E and get the frame, take these to Alba Level Section B and put them in a factor unit. This will make you some eye shields.

Now go in astromomy door, it is safe to enter here as long as you have the eyeshields. When the Nova bomb has detonated put the eyeshields in the locker for future use.

8. Go to Daly Section F and enter the bakery, get the dough and go to laxa Section A and get the cornet from the ice cream room. Go to Farr Level Section A and put the cornet in the music rooms key locker. This is now

open. Get the lute from inside.

9. Go to Byer Section 1 and in to the oratory door, get the dais, go to Section E and put the dough in the key locker. This opens the banker door. Go through to Section A and put the dais and lute in factor unit. These will make the lead suit. Now go in danger door and once radiation bomb has gone off put it in locker for future use. Go through to Section C.
10. Go down to Joly level Section C via the South facing lift. Go in safety door and get the ear muffs and the boots. Go back up lift to Byer level Section C. Then go to Section A into the danger door. Put the bomb in the key locker and this will open the door to Section B. Go through to danger door in this section (Northern one). Go in when sonic bomb has gone off. Put the ear muffs in the locker.
11. Go to Daly Section C and put boots in the key locker. This now opens the chemist door. Take the oxygen from inside, go to Alba level Section A and get the empty tank, go to Coma level Section A. Put these in factor unit and you will now receive an air tank. Go into the danger room once the Vacuum has gone put the tank into the locker for future use.
12. Now go to Byer level Section E and get the calculating machines then go to Coma level Section B and get the steps, then go to Farr level (via the vacuum danger room) and to Section G go into the Games room and put the steps and the calculators in factor unit. You now have a snakes and ladders game. Put this in the key locker and the door will unlock to Section C.
13. Go to Alba Section D and into the Director room, get the first key to m-central. Go to Byer Section E and into the banker door, get key 2. Then go to Farr Section G and get key 3. Take these through to Section C and take the down lift to Hale level (at last). Go to Section H and put key 2 in Southernist locker and key 3 in other one. M central door between these is now unlocked. Go through and into Section E and into the sanctum door. You have now completed Phase 1.

BACK TO SKOOL

At the time of writing this game has only been released for a couple of days but Robert Allen of Banbury has already sussed out some of the problems contained in the game.

When the game starts go to the Boy's School and search every desk for the Water Pistol. If you find one then go to the area with three cups on a shelf and shoot them. They will turn blue for every one you hit. Now go up three stairs and aim the catapult at the cups. When a teacher comes along fire at the cups, some water should be knocked out. If the water touches a teacher then they tell you a number, note this down. Do this to four teachers and write the numbers down on a blackboard, you can now ride the bike. If the Skool gate is shut then pedal the bike towards it and stand on the saddle when you get near it. When the bike hits the gates you will be thrown over.

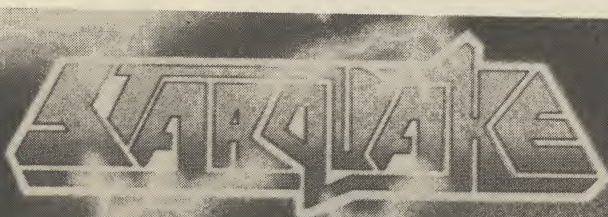
FAIRLIGHT

If you're into platform games then this is one of the best but now thanks to Stewart Beatt it is possible to get a bit further with these codes. Just go to the options screen and enter these codes into the code option.

SCREEN 4) 1HB
SCREEN 7) LTO
SCREEN 10) JDP
SCREEN 13) MLB
SCREEN 16) DVJ
SCREEN 22) PHH
SCREEN 25) XNR

It is 7 am in the morning and I have just finished writing this column, there is no sign of the sun and the only sound is that of a gently slumbering Liddon. Time to go to bed I think and then I realise that there is an interview to write up. Ah well there's no rest for the overworked and underpaid brigade. I hope you all have a happy Christmas, I know that I won't because I will have to get the next issue of the Playing Tips written ...

Robin Candy is allowed to appear by kind permission of Mangram Inc. Large white hankies, tastefully embroidered with the Candy/Mangram monogram, are available on request for the collection of readers' tears after listening to the heart-rending story of Robin's hard life. If he has the strength to struggle through opening all his Christmas pressies, he'll no doubt be back next year — Lloyd willing. In the meantime, any tips etc, send to ROBIN CANDY'S PLAYING TIPS, CRASH MAGAZINE, PO BOX 10, LUDLOW, SHROPSHIRE SY8 1DB



STARQUAKE

This game hasn't been out long but already it has attracted a lot of attention from tipsters. These tips were compiled with help from Jason Naylor of Leeds, Johnny Macfarlane of Leatherhead, Adrian Whitehouse of Brackley, M Hall of Houghton, M.J Musgrove of Bracknell, David Gardner, David Russell and Peter Rump of Bromley, Andrew Bradley of Ludlow, C Jala and a cast of thousands!

Listed below are code words for

the teleport:
VEROX ASOIC
QUAKE EXIAL
ULTRA SONIQ
AMIGA TULSA
KYZIA DELTA
ALGOL AMAHA
IRAGE RAMIX
OKTUP

You must remember when you are using the flyer that you cannot pick up pieces of the core. If you see an object like a security card then take. This gives access to the security doors which allow entry to other parts of the maze. It also allows you to use the cheops.



MARSPORT

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McPeck

DON'T READ THIS IF YOU'RE A WIMP!

Still reading?

Well if you carry on,
it's purely at your own risk.

Okay?

Okay.

Read on at your
peril . . .



BOO!

Warned You! Now take a look at the delightful piccie we've lovingly reproduced in black and white on this page (didn't want any red, pretend blood frightening anyone, did we?).

CUT TO VOICE OVER BY CARING, UPPER CLASS FEMALE PERSON:

"On the left, we have JASON, modelling the very latest in High-Couture cotton boiler suits as supplied by the Army and Navy stores just down the road from Domark's London Offices. You will notice that Jason is wearing some very adventurous headgear from the local Ice Hockey club, and sets off his entire outfit with a cheeky little accessory, the very latest in rubber carving knives. (Ideal for giving the office cat a nasty moment or two, when it realises you can't actually cut up its Whiskas for it, and it's going to have to chew some grub for itself.)"

"On the right, showing how the well dressed Jason-in-the-street wears the off-the-shoulder nylon boiler suit when not out on the rampage, we have JASON, who has borrowed a few stylistic nuances from Jason, and also sports a skimpy little facemask, this time in light grey. To mark out his individuality from the crowd, JASON has decided to set off the whole ensemble with a wobbly rubber axe, from the Joke Shop, just by Tottenham Court Tube."

"Both Jason and JASON find that travelling to work in the morning a real chore, and have opted for the ultimate in comfort when it comes to footwear — slaughterman's wellingtons. Unfortunately, our photographer cropped the picture rather cruelly, and Jason and JASON's lower limbs appear to be missing."

No really, you can come out from behind the sofa now. It's Not JASON and Jason really — only Mark Strachan and Dominic Wheatley of Domark having an eye-crossing time of it. What we want you to do is write a caption for the photo — or perhaps a couple of hundred words describing the scene it depicts.

Best contribution will win its author a weekend trip to a dungeon in London — better known as the London Dungeon. Domark will stump up the cost of the return rail trip to London for two people, and will throw in two nights dinner bed and breakfast at a good London hotel as well. Don't get too cut up if you don't win top prize — fifty Domark T Shirts will go to the runners up.

The top prize is not for the faint-hearted, though, as the London Dungeon specialises in horrorshow waxworks, bringing to life a few of the less "tea-time" aspects of history. So don't bring your Marmite Soldiers with you if you win!

ENTRIES PLEASE TO: Gosh! I'm weally fwitened!, PO BOX 10, LUDLOW, SHROPSHIRE, SY8 1DB to arrive by the end of January.

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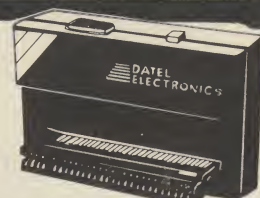


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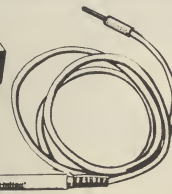
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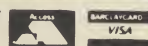
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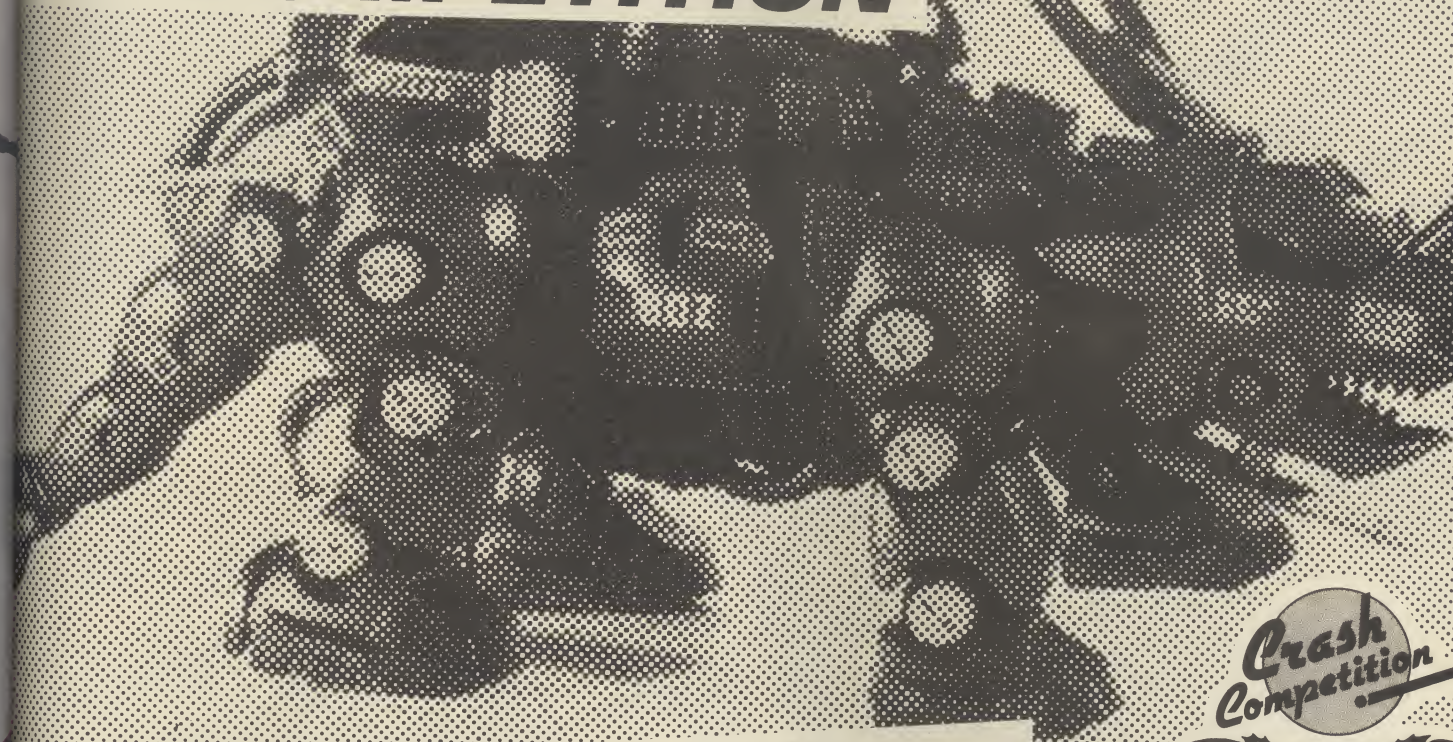


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WIN ZOIDZILLA in the DESIGN A ZOID COMPETITION



**Your Chance to Give
Jeremy (I Want A Zoid)
Spencer something new to
dream about**

The helpful David Martin, Big Cheese at MARTECH, the company which is bringing you ZOIDS, the game, has got together with the Zoid People at Tomy to offer you the chance to win your very own ZOIDZILLA. And a copy of the game, and a little Zoid and a big Poster! Twenty runners up will pick up a copy of Martech's game, designed by the Electronic Pencil Company, a small zoid and a poster. Then thirty more winners will have their very own Zoid poster to pin up on their bedroom wall.

So that's the prizey bit out of

the way: what have you got to do, in order to beat the evil Jeremy Spencer to Zoid ownership in this competition? *(It's Okay folks, I've banned Spencer from entering the comp — ED).* Well, in the game, you become one with a Zoid, sitting in its control cockpit and travelling over a hostile planet, doing battle with the baddie zoids on your quest to reassemble Zoidzilla.

The game has a neat mixture of strategy and arcade action, and is controlled with the now-trendy icons.

► To win a prizipoos, you'll have to sit down and design a Zoid. You can go as far as you like with your Zoid design, from sketching out the basic components and weapon systems to submitting a complete specification accompanied by a full set of technical drawings in isometric projection. Go as far as you like!

And if you really want to round off your entry, you might wish to provide a little picture of your Zoid in action on the surface of the planet Zoidstar. Put together a little Zoid portfolio, in fact, as if you were the designer

of the new fighting machine who had to get his idea accepted. ◀

Plenty to keep you busy, thinking and designing, over the Christmas Pud eating season. Get your entries in by the end of January, cos we'll make Jeremy judge the competition on 30th of that month — with any luck we should get a colour snap of him going green with envy.

Get those Zoids in to, CRASH ZOIDSMTCH COMP, PO BOX 10, LUDLOW, SHROPSHIRE, SY8 1DB

COME UP WITH THE ULTIMATE COMBAT ZOID AND WIN, WIN, WIN



By way of a Christmas treat, we present a short story from the pen of Wilf Prigmore. Meet Max Helpmann . . .

THE HUMAN TOUCH . . .

▷ Only the very, very rich went to the Holiday Belt. Max Helpmann wasn't rich — yet he was going there. As an ex-con he shouldn't have even been aboard the Sinclairways' Shuttle now speeding beyond the reach of Earth's gravity and its law enforcement agents.

'The Lord helps those that help themselves,' grinned Max, unfastening his seatbelt and making himself comfortable. His drink tasted good. Pollution-free 'Syntheau' from one of the moon based conglomerates, reminded

him of his childhood. It used to be available from a tap. Then came rumours that the treatment plants couldn't cope with the amount of bleaches, detergents and disinfectants which were ending up in the system . . . Naturally, people turned to the bottled water which, advertisers assured everyone, was far more healthy. If you wanted free water after that, the only way was to sink a well in the garden.

Max skipped over memories of the next twenty-odd years and

concentrated on the events which had taken place that very day. Hard to believe that only a few hours ago he'd been conning his way into homes and taking any valuables which hadn't been screwed down. (The campaign supporting screws as an ideal anti-theft device had been particularly compelling. To Max's way of thinking it was rather distasteful. And bad for his line of work.)

To avoid early detection of a pattern, Max liked to vary his

story fairly often. He'd had some success as a 'rodent exterminator checking on black rat sightings in the area' and thought he'd do his gasman. He banged on the target's door and rushed past the startled occupier when it was opened. In reaction to Max's urgent request to check a serious gasleak, the occupier unleashed two savage-looking dogs, which sent Max stumbling back into the kitchen. Only his quick thinking — throwing the occupier's lunch on the floor between the two dogs —

saved his hide and allowed him to nip out the back door and over the wall.

'Bloody Solar Power Houses!'

The alarm was raised and Max knew he could soon have his collar felt. Figuratively speaking that is, for Max had often noticed how computer-directed lawmen these days lacked feeling! In his hurry to get away, he didn't see the man coming out of an alleyway and ran straight into him. Old habits die hard. Max apologised profusely, dusted the man down, and relieved him of his securibelt...

Normally, a shuttle ticket would have ended up in the street Litter-Vapourizer (Keep Earth Tidy), but not this time. It was the jammiest bit of luck to smile on Max in years. The ticket and interzonal ID Card belonged to one Arthur Plumtree, a fourth-rate impressionist who Max had been embarrassed to watch on channel 28 recently. Word was, Plumtree had bribed the producer to let him appear. The TV station got the equivalent of a month's advertising money, Plumtree got his appearance and only the viewer lost out. A flimsy escape plan fluttered in Max's mind. The odds were heavily stacked against him, of course, but who'd expect him to head for the shuttleport. Criminals never got past the check-in, did they!

'Hi, chum. Just spoke to your brother. Put money in him for a chewbar and he read my horoscope. You might say he gave me thought for food. Ha ha! Where do I stick the ID? Oh, I got it. Catch my show the other night? No, I guess not. You guys are kinda tied to the job, eh! Max couldn't believe what he was was doing. Imagine trying to fool an Excise Droid (Mark 3 2D Klair, according to the manufacturer's label), that he was Plumtree putting on silly voices. The voice pattern strip in the ID would betray him. Oh well, it'd give the lads in Their Majesties' Prison Wadmoor something to laugh about.

'Plumtree? Arthur Plumtree?' asked the Droid officiously.

'Y-Yessir!'

'Arthur Plumtree. You are cleared for take-off.' The Excise Droid accurately spat the ID card

ultimate 'Shuttle away from it all' dream. They flickered like some vast, unearthly candle luring monied moths towards it. But they spelled welcome to Max. For soon the shuttle would be landing and he would be free to ply his trade.

Trade on The Belt, Max found, was far easier too ply than on Earth. Here, there was little security. The filthy rich didn't need to rob each other and the likes of Max were not permitted to travel in space, so why bother with any fancy door locks?

Back home however, it was different. Robberies at one time were so frequent and credit cards so easy to obtain that cash became obsolete. Then robbers turned to computers to hack their way into accounts, transferring funds to their own numbers. In the end, people were employed round the clock to check incoming instructions to bank computers. He had laughed about that. It had reminded him of stories that his grandfather used to tell him of men riding shotgun to guard money for Wells Fargo.

Underworld friends laughed at Max's old-fashioned ways. But he had the last laugh. Before long, computers ran everything and made themselves virtually foolproof. Much of the criminal fraternity became redundant.

Yes, it was much easier up here. While 'The Belters' were out doing their own particular things, Max was doing his. Without sophisticated electrolocks to crack, he could use the despised credit cards to let himself into hotel rooms. Old-fashioned skeleton keys, fashioned from one of his bed springs, gave him access to every drawer and cupboard. And anyone who slept with the key in their lock would not have seen Max push it onto a piece of waiting paper, pull it under the door and let himself silently in and relieve them of their jewellery.

Trouble was, it wouldn't be long before people talked and realised that they hadn't merely lost their items, but that the unthinkable had happened. Max would need to be long way away by then. But to do that he'd need

It might have been the shuttle-lag, or lack of sleep, maybe even nostalgia brought about by another of Grandfathers' stories. Whatever it was, Max decided he wanted some money for himself. He'd find an excuse to get into the casino vaults and case the joint.

A crate of beer outside the cellar gave Max the excuse he wanted. He picked it up and strode purposefully down. Even in his present befuddled state Max should have been more suspicious. More cash than he'd ever managed to count in his mind to induce sleep lay before him in boxes next to the crisps. Grabbing an armful, he threw it

bandwaggon. You know the result. After that things got boring. Nobody went out and bought things on impulse anymore - they just ordered things they saw on the TV screen. And it never looked as good as the real thing, so not many people bothered. I could see a slump coming so I invested my money in the Holiday Belt. The press said it was a bad move... I came up to personally see to the operation. It's working. But I want to go back down. Start a campaign that will shake them all up. And that campaign will happen - because of you Max.'

'Sorry, I don't follow Luv. I don't know anything about

... he saw pictures of getaway cars screaming from a bank, notes fluttering from a suitcase as passers-by stood in amazement. Max had only seen money in a museum - people stopped using it when he was a kid...

madly above his head and enjoyed the new sensation of notes skidding off his head and face.

'If Sir would just care to leave his account number, we will gladly fetch the chips to the table for him!' A Tuxedoed figure looking patronisingly down at him. A few drinks and people did the most incredible things!

Max was embarrassed. Casino chips - made of paper? What a gimmick But they were not negotiable outside the casino. What a fool!

'I think you'd better have a word with Lowsy, Umble and Vyle, sir!'

Max gulped. They must be what passed as law in these parts, or the casino's heavy boys. Either way he didn't like the sound of it.

The coffee in front of Max reassured him. He was alone in the room save for a large screen on one wall. Why give him coffee if they were going to do nasty things to him? He started when the screen spoke to him.

'Welcome Max!'

'Wh-what the-? My name's not Max. You've got the wrong man. And where are the three I'm supposed to see?'

'Lowsy, Umble and Vyle, you mean? That's me, Max. But you can call me Luv for short. I'm an advertising agency you see. Silly I know, but it's traditional to have several names. I've noticed you're a traditionalist in your own way Max. That's why you're here. Oh, you think you were so clever getting here. But while you were putting on your ridiculous act, my Excise Droid was telling me all about you. I ordered him to let you on the shuttle.'

Max was lost for words. Luv, however, wasn't. She continued.

'I Max, am a computer. We took over the advertising business a year ago. I was - am - the best agency there's ever been. You may know some of my work. The bottled water campaign was good. Kept me at the top of the league for ages. The others were green with envy. Then the plastic credit cards. My idea... Trouble was I never got the idea patented so everyone else jumped on the

advertising except that I hate it! Flaming bottled water and plastic money!'

'Quite Max, but with your help things will change. I am going to shake the world with my exciting new concept of commercialism - cash! Money. It will be the greatest thing since sliced bread. A bit before your time Max, but I modestly admit that that too, was my idea!'

'You're crackers! It'll never catch on!'

'But it will, Max. You love money, don't you? Look at your behaviour in the casino vaults just now! I tell you it's a winner! We sell it on nostalgia. We tell people it's wholesome, old-fashioned and what they've been missing - the human touch - you've shown me the importance of that Max. Take the money out to a shop - see people - talk about your personal problems. Money will bring you friends, happiness.'

'I think you have a point there Luv. And if you patent money, nobody else will be able to make any. They'll have to come to you for it! And I could go round nicking it from them - so they'd have to get more!'

'You're a fast learner Max. I have seen the correlation between cash and human emotion. We will play on that emotion to make them part with the cash. I desire to be respected, and this scheme will secure it. Look, Max, I have even designed the notes. Pretty aren't they? I searched my memory dump and came up with the motifs. Something called 'knitting pattern!' But very human, I think. I would like you to have these first copies as a gift. A first payment.'

Max stifled a laugh as he accepted the notes. His mind was already racing. He didn't want to work for a stinking computer, but it might serve his purposes for the time being. His grandfather had been a money forger in the last great money age and Max had inherited his artistic talents...

When Luv's campaign got underway, Max Helpmann was planning to get very, very rich!

... Max knew he could soon have his collar felt. Figuratively speaking that is, for Max had often noticed how computer-directed lawmen these days lacked feeling...

into Max's trembling hand.

That was about all Max could remember of what had gone before. (Apart from the smell of fear rising from his armpits). The ride on the traveller, boarding and lift-off - these were all like areas of fresh, untrodden snow in his brain. But now he felt good. He had beaten the unbeatable machine. The human touch was still supreme.

'Land ahoy!' shouted one of the merry holidaymakers, and Max found himself looking out of the porthole. Even from this distance he could see the garish lights of the holiday belt - a chain of artificial planets designed by an advertising company as the

to make a really big haul. Shuttle pilots only took megabribes!

Now Max had been keen to get started. All this work on The Belt was carried out over a mere twenty four hours. Having hidden his loot in a park, he was making his way back to his hotel for some well-earned rest when he passed the casino. People were coming out with wads of - money? Max blinked. He saw pictures of getaway cars screaming from a bank, notes fluttering from a suitcase as passers-by stood in amazement. Max had only seen money in a museum - people stopped using it when he was a kid...

ROLL UP! ROLL UP! ROLL UP!

Any day now, Activision will be releasing the Spectrum version of *Ballblazer* into the games arena. The rough boys on our sister magazine, *ZZAP!* haven't been able to stop playing the Commodore version since it arrived in the office. In fact they've made it the GOLD MEDAL game in their Christmas Special.

It's going to be really neat on the Spectrum. Some people say, even better than on the C64, but we'll have to wait a few more

the horizon. You can't see down the length of the pitch as a result, which means you have to go

THREE VTX5000 MODEMS UP FOR GRABS

hunting for the ball.

The screen is split into two horizontal displays — the views from the cockpit of your craft and your opponent's. When you can see his craft on your display, he sees yours on his. To make life more interesting, the goalposts move — and the gap between them gets smaller after each goal.

Fast and furious action indeed, and you could be among the first Spectrum owners in the country to play *Ballblazer*, courtesy of this Activision Christmas comp. Top three prizes are a copy of the game and a VTX5000 modem, with twenty five runners up having to make do with a copy of the game only.

To win, you'll have to put your mind into "Ball game" mode, and come up with the answers to the questions which appear here. They're all to do with primitive ball games which preceded the ultimate contest, *Ballblazer*. Get your entries in to BALLBLAZER COMP, PO BOX 10, LUDLOW, SHROPSHIRE, SY8 1DB to arrive by 30th January 1986, when the draw will be made to determine who comes out top in the *Ballblazer Challenge*.

1) In which games which involve a ball do you find:

- a) A strike
- b) A break
- c) A conversion
- d) A boundary hit
- e) A set
- f) An offside
- g) A rollover
- h) A jack
- i) A birdie
- j) A fairway
- k) Cradling

2) How many players per side in the following ball games:

- a) Rugby Union
- b) Rugby League
- c) Football (easy one, huh?)
- d) American Football
- e) Hockey
- f) Lacrosse
- g) Cricket
- h) Basketball
- i) Baseball

Twenty eight Ballblazer Cassettes to be won

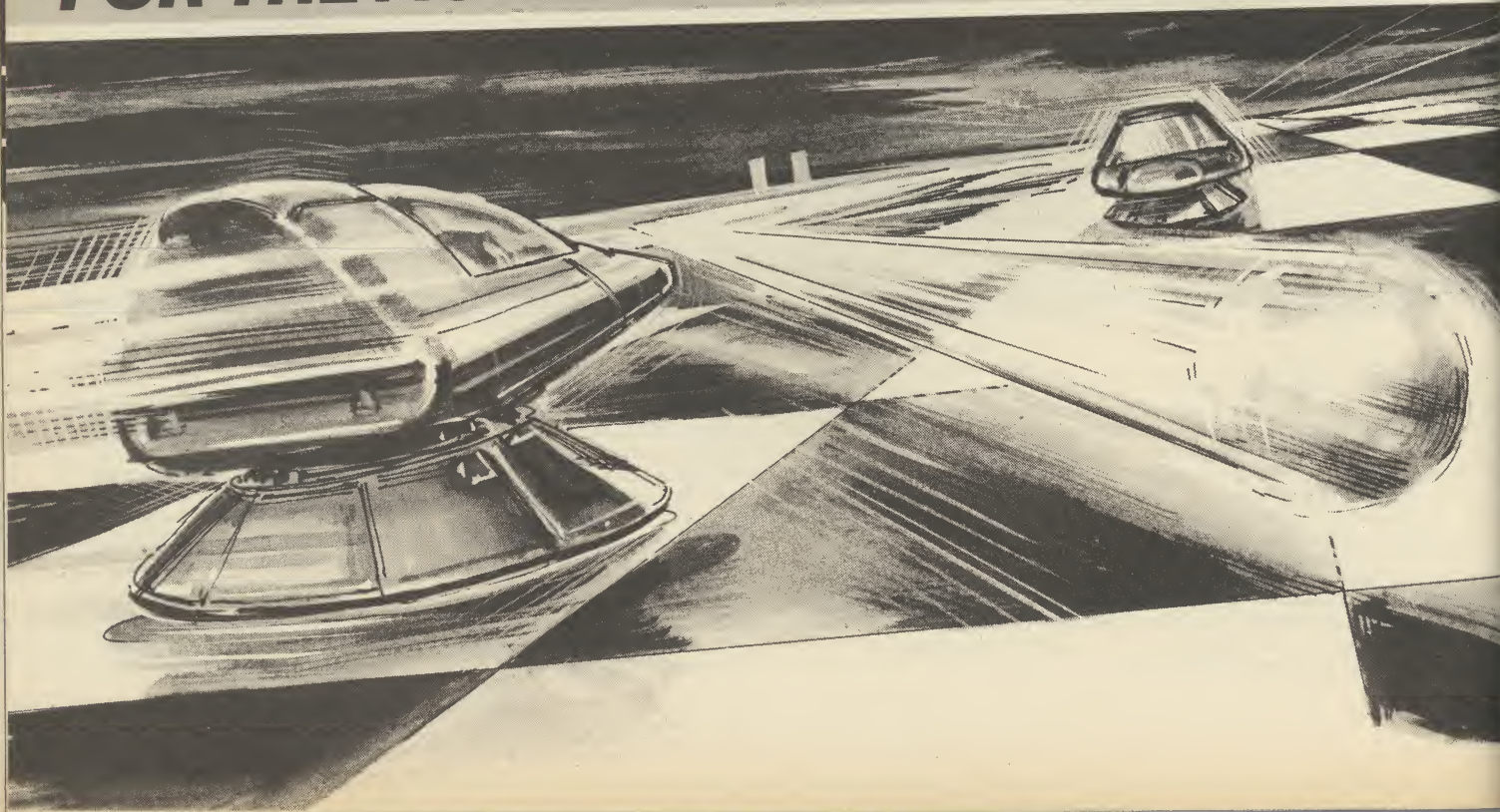
weeks before that little rumour is proved or disproved. Either way, it looks bound to be a brilliant game.

The action takes place in an arena, where battles between two combatants controlling specially designed craft take place. The aim of the game is to seize control of a ball of matter with your craft's force field, scamper up to your opponent's goal and blast it between the moving goalposts. Your opponent, which can be the computer or a real life chum, is trying to do just the same to you — so the action gets fast and furious.

But such a simplistic description belies the addictive nature of the game. The playing area — not unlike a football pitch in design — is a large chequer-boarded area, which curves over



FOR THE ACTIVISION BALLBLAZER COMP





This man is harmless.



This lady is deadly.



This girl is dangerous.



This boy is a fugitive.





C.O.M.M.A.N.D.O

COMMANDO

Producer: Elite
Retail price: £7.95
Language: machine code

Elite's *Commando* is the licensed version of the classic Capcom arcade game which has captivated thousands and thousands of arcade gamers all over Britain.

The game involves you taking the role of a super crack commando with a mission to penetrate deep behind enemy lines and destroy their two main fortress. This mission takes place over a vertically scrolling landscape and you, armed with a few grenades and a sub machine gun, have to take on the entire enemy army single handed. There are boxes of grenades lying around the battlefield which you can pick up to replenish your stocks, but otherwise you just have to use your skill, reflexes and sub machine gun to survive.

To reach each fortress you first have to go through four areas, each with its own mini fortress at the end. When you take a mini fortress you are transported to the second area, and so on until you reach the main fortress. If you take and destroy that then you'll start the second mission which has to be completed in similar style, although the landscape and soldiers are far more hostile.

When you approach a fortress its doors open and loads of soldiers pour out, spewing bullets from their guns and lobbing grenades all over the shop. To take the fortress you have to destroy every soldier — not a trivial task. When you've killed all the soldiers then your man automatically runs through the fortress gates, a message of congratulations is printed up on screen and you'll be transported to the next area.

Each area has its own features and hazards. Level one is comparatively easy, but by the time you reach level four the going gets really tough, with lots of obstacles to thwart swift forward progress. Naturally, there are loads of enemy soldiers swarming all over the place, but luckily they're only armed with single shot rifles and grenades. Even so their sheer number

often becomes totally overpowering.

There are two specialist weapons used by enemy soldiers: bazookas and mortars. Mortar bombers don't pose too much of a threat, since they can only fire one pretty inaccurate shot at a time. Bazooka carriers, on the other hand, are deadly and fire round after round of lethal shells which explode in a large cloud of deadly flak.

Vehicles trundle about the landscape. They come in various shapes and sizes and include trucks, jeeps and motorbikes. They've all got to be avoided, but can be destroyed with a well-aimed hand gren-

ade. Jeeps can cause problems, as they carry a gunner armed with a sub machine gun and spell doom if you're not busy pegging it in the opposite direction. Lorries, too, are deadly and carry many soldiers which pile out when their transport stops.

The landscape is very barren — well, what do you expect for a desert? Dotted around are trees, little hills (usually the enemy come belting down the slopes) and rivers (there are always bridges to cross them — you might be a commando but you can't swim!).

Area one is pretty deserted with only a few trees and hills,

although there is a bridge which you have to go under. The bridge is narrow, and there's usually plenty of enemy soldiers just waiting to pounce on you on the other side. After the bridge there are rocks which the enemy use for cover and after them, the first mini fortress.

Area two is where things start getting tough. Foxholes filled with soldiers block your path, and the only way to kill the soldiers is by lobbing grenades on them. While you're trying to do that they're busily trying to machine gun you down, just to make your life a misery. There are also another two bridges, one to go under and one to go





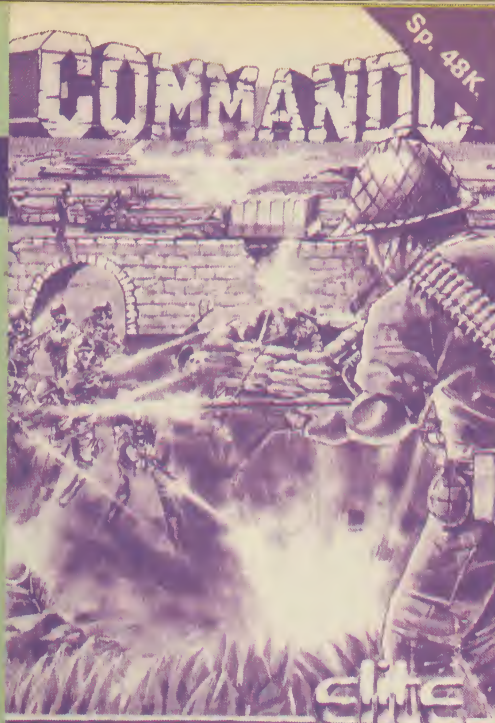
then you'll be transported back to the very first area, to start over, but the enemy are more numerous and they fire more accurately.

Points are awarded for disposing of enemy soldiers and vehicles and a hefty bonus can be earned by killing two guards who hold a colleague of yours prisoner. Once you liberate your ally, he disappears, rather than helping you fight your battle, however.

CRITICISM

● 'Speaking as someone who's youth was spent toggling the joysticks of arcade games this is about the best arcade conversion your Spectrum is likely to see. The arcade machine had some of the most photographic graphics and brilliant stereo sound — naturally these have been lost in the transition from megabyte memory 68000 to 48K Z80. Nevertheless, the rest of the game has faithfully been incorporated - all eight areas have been copied with meticulous attention. All the hillocks, trees, bridges and everything are all there - the soldiers even attack from the same points! The highscore table is the same as the arcade one too, with its spinning letters and all that. The gameplay is brilliant, although playing with the keys is a bit of a pain — it all gets rather confusing at the end of an area. If you want a game for Christmas then look no further than this, it's * * * * * amazing!'

● 'Elite have done a brilliant job, converting this arcade game for the Spectrum. The action is fast and furious, and should present



a lasting challenge to anyone addicted to shoot em ups. Plenty of practice will be needed to get far into the game — it's very easy to concentrate on wiping out the enemy but you've got to remember to dodge their bullets too! Horribly violent, and not much of an intellectual challenge — but great fun. Get it.'

● 'I must confess that I never expected this game to turn out quite as well as it did. I found the game very easy to get into and not so easy to leave alone. The movement of the characters is very effective, I particularly enjoyed the way the enemy troops jumped down from various heights and then set about trying to do you in. There are some graphics which might have been better left out — in particular to the jeep which looks more like a tape deck. All in all Commando is a great game for those into fast moving violence, it requires fine tuned reactions and a fair bit of daring.'

COMMENTS

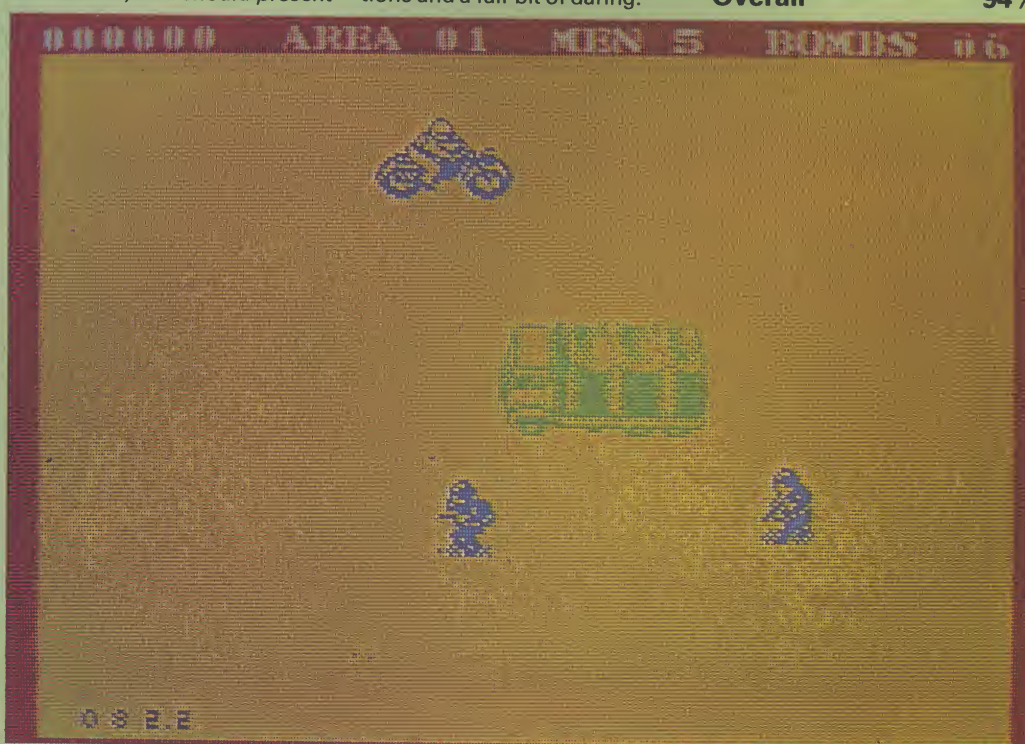
Control keys: redefinable
Joystick: Kempston, Sinclair, Cursor, Fuller
Keyboard play: very responsive
Use of colour: rather bland
Graphics: excellent scrolling, and fast, especially with the amount of little mateys hacking about
Sound: great spot effects, but no tune
Skill levels: increasing difficulty
Screens: eight areas to fight through
General rating: A first-rate arcade conversion — very addictive indeed

Use of computer	86%
Graphics	92%
Playability	95%
Getting started	94%
Addictive qualities	95%
Value for money	92%
Overall	94%

over (it gets you across a river). Buildings and bunkers start to make an appearance too. Yet more soldiers pour from the buildings, while a fusillade of bullets comes from the bunkers.

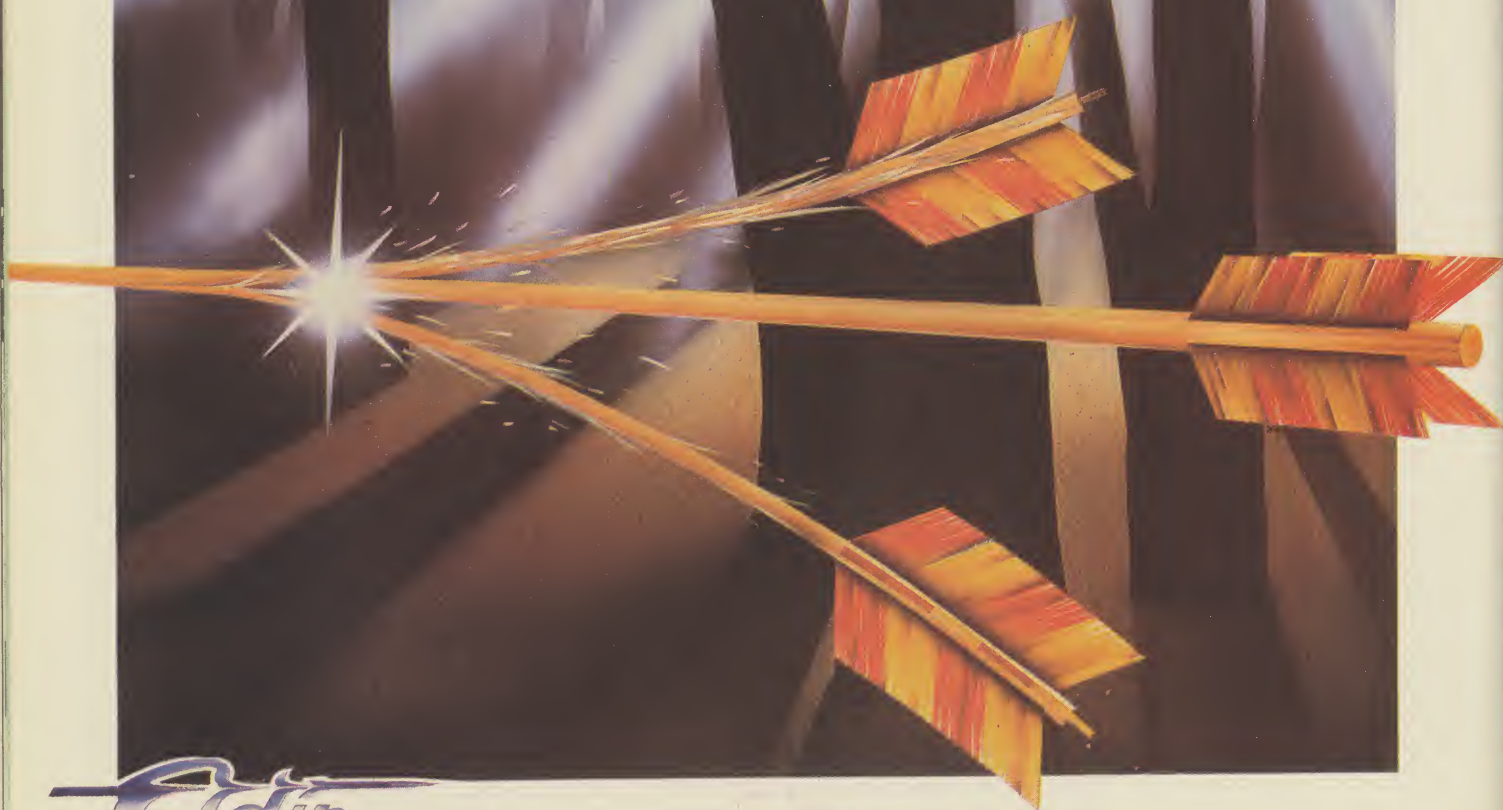
Areas three and four feature all the hazards found in the earlier sections, only in far greater numbers. On area four, the final run up to the first fortress, you are forced to cross an airport which has lookout towers complete with machine gun wielding soldiers at the top.

The areas which lead to the second fortress are diabolical, by comparison with what goes before them. And if you manage to destroy the second fortress



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ROBIN of the wood



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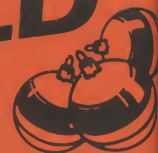
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HERE'S A LITTLE US GOLD

BRAIN TEASER



In Which your competition
Minion gets his revenge...

Two ZX Expansion Units up
for grabs and 50 Games
too!



Before you start getting greedy, let's pause a moment and explain that one person isn't going to clear up in the competition. Two outright winners, on a first out of the bag with an all correct answer basis, will each get a Microdrive and Interface One to play with. Then no less than fifty runners up will each have a copy of *Impossible Mission* to amuse themselves with.

Right, now we've got that sorted, on with the competition instructions. Behold, for it is a wordsquare. Now, you wouldn't think we'd let you get away with anything too easy, just because it's the Festive Season, now would you? Gooooood. You will note that the said wordsquare comes without a list of words for you to find... spotted that yet. No? Go and check and come back here when you have.

Hello again. We haven't put the words in, 'cos they're not words. They're titles of US Gold games which have been released on the Spectrum. They are split up all funny too — KING KONGS REVENGE, for instance,



Z	I	M	E	E	L	E	C	U	R	B	T	M
H	A	U	N	S	C	R	E	V	O	Y	P	O
E	A	X	T	S	S	L	N	O	X	A	Z	S
I	M	P	O	S	S	I	B	L	E	X	E	C
G	S	R	E	G	O	R	B	R	B	A	X	O
F	Y	E	L	E	N	Y	T	D	A	M	R	W
K	X	P	P	B	B	U	A	X	X	E	N	U
E	C	P	S	O	N	E	P	Y	O	U	S	N
R	O	U	U	U	H	L	P	M	N	L	B	O
T	O	N	B	H	U	N	E	O	L	B	T	I
P	T	A	C	U	E	E	R	A	I	D	L	S
Y	R	A	E	N	K	T	B	M	S	S	U	S
Z	E	R	X	T	Y	O	A	P	P	S	E	I
B	V	X	A	X	B	H	U	N	T	E	R	M

MINION'S REVENGE WORDSQUARE

Find the names of the games released by US GOLD that are lurking, hiding and generally making themselves unobvious in the following wordsquare. Heh Heh!

had it been an Ocean Game, might appear in this wordsquare as KINGKONGS REVENGE. Two words, you see, rather than one. Or maybe as KING KONGS REVENGE — three words or even KINGKONGSREVENGE: one.

What you've got to do, is hunt through, and find out how many US GOLD game-names there are, hidden away in the wordsquare. And I'm simply not going to tell you how many game names I've hidden away. Not after all the fuss you made about minor irregularities in certain other wordsquares. So there. NYA NYA. You'll just have to keep looking until you've found them all. (Hee Hee!)

And when you've come up with as many names as you can find, jot them on the back of a sealed envelope, add your very own name and address and whizzzzz your entry off to US GOLD WORDSQUARE, PO BOX 10, LUDLOW, SHROPSHIRE, SY8 1DB to arrive by 30th January next year. Or this year, if it's already 1986 when you go to the post box.

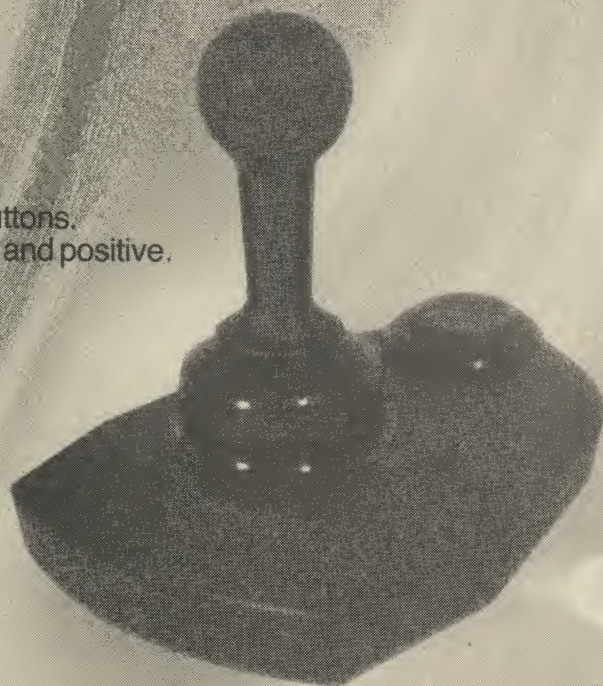
THERE ARE JOYSTICKS
AND THERE ARE

EUROMAX JOYSTICKS



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- ★ Positive micro switched action.
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EUROMAX COMP PRO

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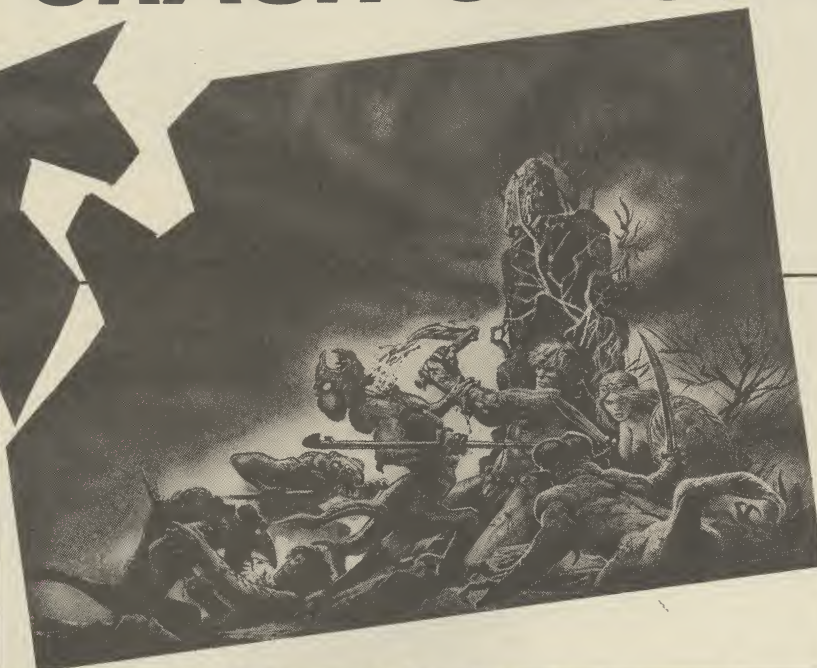
NAME.....

ADDRESS.....

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WIN AN OLI ORIGINAL! In the Extra Special CRASH Christmas Quiz



After a little bit of arm twisting (and the promise of a Gin and Martini or two) your very own Competition Minion is proud to be able to announce that he has persuaded our very own Oliver Frey to offer a whizzo prize this Chrimble. No less than a signed Oliver Frey original.

For a bit of fun, Oli's drawn this bijou scenette, not once, but twice. Second time around, he made a few changes and it's up to you to work out exactly what they were. After close inspection of Versions A and B of the piccie, ring round the differences in Picture B, complete the entry form and whizz it off in an envelope to CRASH OLI COMP, PO BOX 10, LUDLOW, SHROPSHIRE, SY8 1DB to arrive by 30th January.

To make your faithful Minion's life that little bit easier in 1986, write the number of differences you spotted on the back of the envelope. Go on, be helpful for once, eh?

First all-correct answer out of the extra special hat on the appointed day will win its sender a personally airbrushed Oli Original. And the winner will be invited up to Ludlow to be presented with her or his prize, in person, by the veritable OLIVER FREY. And if you're really lucky, we might just show you round CRASH Towers and throw in a pub lunch or something. Depends on how the tea kitty's doing at the time, but we should be able to rustle up your railfare, too.

NAME

ADDRESS

.....

.....

POST CODE

DON'T FORGET TO MARK HOW
MANY DIFFERENCES YOU
SPOTTED ON THE BACK OF THE
ENVELOPE



A LITTLE LEARNING FOR THE FESTIVE SEASON?

This month, with the help of a panel of children, Crash Course looks at some Christmas crackers!



First of all, though, there is some good news on the educational front. A new organisation, British Educational Software Associates, has recently been set up to improve the availability and distribution of educational software. Eight firms (ASK, Bourne, Calpac, Collins, Griffin, Hill MacGibbon, MacMillan and Widgeit) have formed this new marketing consortium to help selected retailers service a market which, according to Roy Davey, marketing director of Collins Soft and Hill MacGibbon, is 'diffused and frustrated'. He feels, quite rightly, that schools have difficulty in finding a retailer who offers a good choice of software together with a fast ordering service, and who allows the customer to view programs before purchase. BESA has now appointed 200 retailers throughout Britain who will stock a 'core list' of 40 programs and will be able to meet orders for other titles from some 250 in the catalogue within 48 hours. Support for retailers will be handled by Proteus, the leading educational software distributor.

This is a very welcome move, both from the point of view of schools and of home users. Up till now, most of the high street stores have paid only lip-service to the area of educational software, and it is hoped that the promotion of BESA in local newspapers and in information hand-outs to schools will begin to rectify matters. If the experiment proves successful, the consortium would hope to expand in 1986. More information about BESA can be obtained from BESA at 4 Little Essex Street, London, WC2R 3LF, Tel: 01 836 6633.

But now on to this month's software selection. I asked a panel of children, ranging in age from 7 to 13 years, to look at the programs with me, and to decide whether or not they'd like to get the games for Christmas. Each game was awarded a score out of 10.

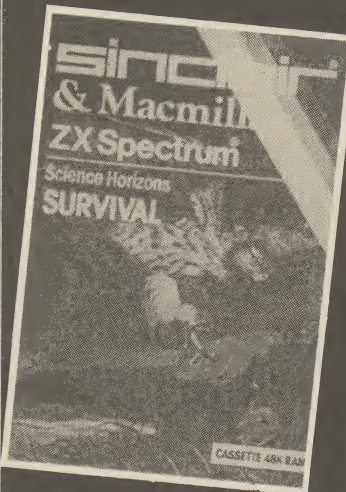
SURVIVAL

Producer: Sinclair/Macmillan (Science Horizons Series)
Retail price: £7.95
Age range: upper primary
Author: Five Ways

The programs in the Science Horizons series each concentrate on one key scientific idea and try to bring it alive for primary children. *Survival* is concerned with the basic principles of ecology (the interdependence of living things and their environment). When the program has loaded, pictures of six creatures (hawk, robin, lion, mouse, fly and butterfly) appear on the screen. The player chooses one of them, and has to keep it alive in its habitat by finding food and water and by steering clear of predators. A grid represents the world in map form, with ice caps to the north and south, and the player moves the chosen animal around, one square at a time. As the game progresses, the child will be building up a profile of each creature, based on the knowl-

edge acquired about its energy requirements, predators, life span and so on.

The useful booklet which is included in the package gives brief notes about the six animals, but of course children could be directed towards reference books to increase their knowledge.



COMMENTS

Control keys: T, Y, U, G, J, B, N, M move the animal round the

grid, P to pause, C to continue, O to switch sound off/on, K to see a key for the habitats, SPACE to speed up the action

Keyboard play: responsive

Use of colour: attractive

Graphics: quite good

General rating: an interesting and enjoyable program which can be used to reinforce learning, or on a self-discovery basis.

Panel's comments: We quite liked it, but it was hard to remember the control keys. We learned a lot about the animals.
7/10

GLIDER

Producer: Sinclair/Macmillan (Science Horizons Series)
Retail price: £7.95
Age range: upper primary
Author: Five Ways

This is probably the weakest of the three Science Horizons programs we looked at. Its aim is to acquaint the user with the scientific principles of gliding — taking into account the need for rising currents of warm air (thermals) and how these are influenced by what is on the ground as well as by the weather conditions and the time of the day. When the program has loaded, the player can choose the time of day, and then, when ENTER is pressed, the glider is towed to the appropriate height and released. A variometer on the right of the screen shows the rate of climb or fall, and when you reach a thermal you should press H to circle and gain as much height as you can. A rough map of the island above which you are flying is shown in the booklet, with a key to the thoroughly confusing list of symbols used. You can get the Air Traffic Controller's report on your performance together with your final score at the end of the flight (you may have landed safely or crashed), which is a nice touch.

COMMENTS

Control keys: T, Y, U, G, J, B, N, M to change the direction of the glider, P to pause, C to continue,



SPACE to choose your time of day at the beginning of the game, and for the report and final score at the end

Keyboard play: good

Use of colour: could have been used to greater effect

Graphics: dull

General rating: I'm afraid we gave this a thumbs down as lacking entertainment value, and with a minimal educational content

Panel's comments: a lot of room for improvement in the graphics and game play. The picture on the box makes the game look much more exciting than it really is. We wouldn't want it for Christmas.
4/10

CARGO

Producer: Sinclair/Macmillan
Retail price: £7.95
Age range: upper primary
Author: Five Ways

The aim of *Cargo* is to demonstrate the careful planning that is needed to allow a cargo ship to carry its maximum load in safety. The player first has to load the ship making sure that the cargo is distributed evenly in the holds, and of course has to pay attention to the Plimsoll line markings in doing so. The player can select a rank (Master, Chief Officer, Second Mate, Cadet) and at the end of the game may



be promoted or demoted depending on performance. The child can also choose a starting point and a port of call — all of the ports are clearly marked on the screen map. After the ship has been loaded and has begun its journey (a line appears on the map to trace the course), the



screen display indicates how it is sitting in the water — the higher the salinity, the more buoyancy it gives to the ship. The program also gives a continuous report on conditions at sea. If you reach your port of call safely, you must unload the cargo and get your score.

This game covers a lot of ground (or should it be sea?) in terms of educational content. Children will learn about salinity and sailing conditions in different parts of the world, improving their geographical knowledge by constant reference to the map. The booklet also gives useful background information about Samuel Plimsoll.

COMMENTS

Control keys: SPACE and ENTER

Keyboard play: good

Use of colour: good

Graphics: excellent

General rating: a very well-designed program which is both enjoyable and educational

Panel's comments: the boys liked it more than the girls did. The map was very good and we liked the way your trail was marked by dots. The program is good value, and the boys would be happy to get it for Christmas. Boys 8/10
Girls 5/10

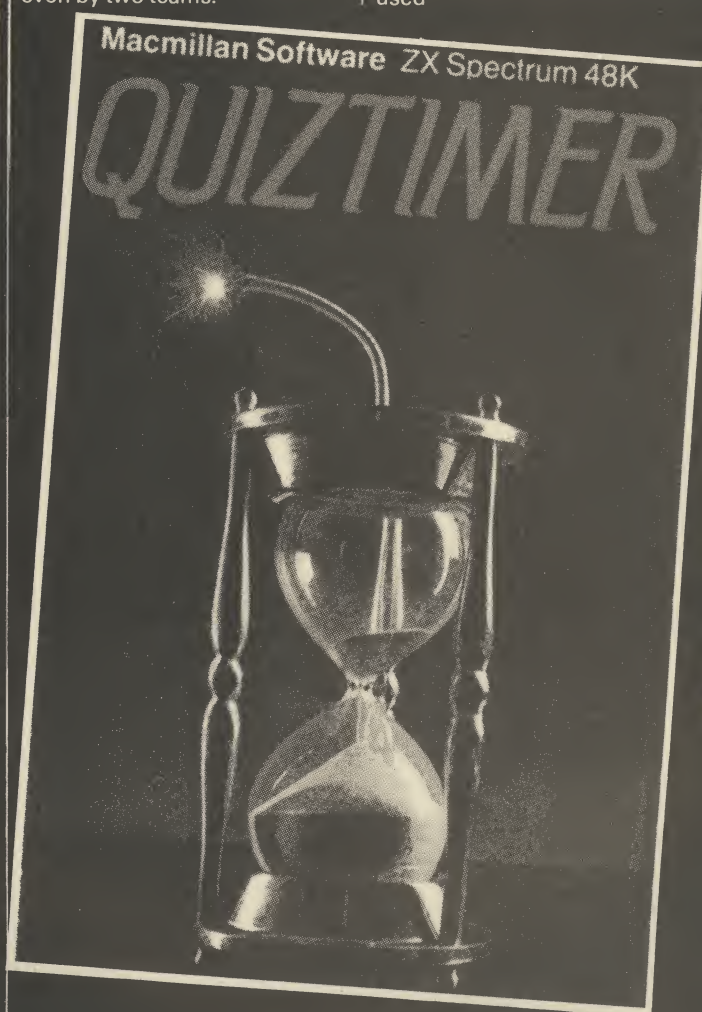
QUIZ-TIMER

Producer: Macmillan Software

Retail price: £5.95

Age range: questions can be altered to suit any age
Author: Blackboard Software

There are many quiz programs on the market, and this is one of the best I've seen. The computer is ideally suited to the role of quizmaster of course, but not all the available quiz games are as flexible as this one, which can be played by one or two players, or even by two teams.



One side of the cassette contains the game and information about it, and you really have to run through the instructions quite carefully. The game consists of a word supplied with several letters missing, and also a clue. The time taken to answer the questions is also important as this will affect your score. Once the main program has been loaded, the player has to choose a password which is necessary if you want to see answers and clues before starting the game, or if you want to change the questions. The menu gives the following options: load quiz data (from a choice of 10 subjects ranging from Food and Drink to Greek Mythology); single or two player game; alter

use and for schools. The game is thoroughly enjoyable to play, and it also provides a useful educational experience, giving at the end a list of all the words you didn't get or that you spelt wrongly. You can also obtain a print-out of what is being shown on the screen, and the whole thing can be transferred to Microdrive if desired.

COMMENTS

Control keys: whole keyboard used

the time allowance; select pictures or words; view/alter quiz data and create and save new quiz data.

The best thing about this program is its flexibility — it has endless potential both for home

Keyboard play: fast

Use of colour: clear and vivid

Graphics: good

General rating: an excellent multi-feature game which provides superb value for money

Panel's comments: Good game! You could play it for ages without getting bored, and it was quite easy to put in your own questions. This is the best of all! 9/10

BLOCK-BUSTER

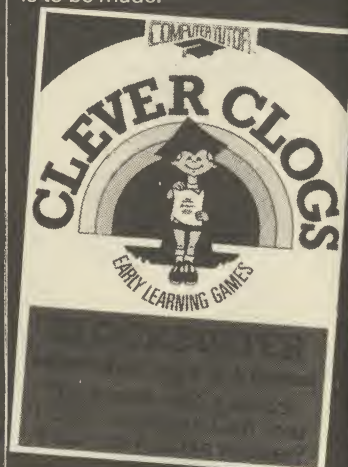
Producer: Argus Press

Retail price: £7.95

Age range: 7 and over

Author: Computertutor (Clever Clogs Series)

Blockbuster (not to be confused with the popular TV quiz game) is a puzzle 'with a million billion variations'. The child has to make a rectangle out of 12 different blocks which appear on the screen. The screen itself is divided into three parts. At the top is the STORE where the blocks are displayed before being used; on the right is the WORKBOX where the blocks can be rotated before being positioned on the board; and to the left is the BOARD marked with a grid where the rectangle is to be made.



The game is very good for developing skills of spatial awareness, and there is also the option of playing it in its quiz version. If you get 12 questions correct, you are given a complete solution as to the creation of the rectangle. As with all the programs in the Clever Clogs series, pressing CAPS SHIFT/Q takes you to a secret Parents' Page, and enables you to reset the questions. Another useful and flexible game.

COMMENTS

Control keys: P to place a piece on the board, M to move a piece to the workbook, S to move a piece back to the store, Q to end the game, CAPS SHIFT/Q to reset the questions

Keyboard play: very responsive

Use of colour: bright and clear

Graphics: simple but effective

General rating: surprisingly difficult for young children. An adult really needs to be on hand all the time for help and advice
Panel's comments: we thought it was a reasonably good game, but it would be better for schools rather than home use. 6/10

MORE WHEEEEE, SPLAT (GENTLY)

And yet another update on how the CRASH/ZZAP!/AMTIX! Dr Barnardo and Action Group charity parachute jump is progressing. C'mon people, we need your votes to push some of our staff out of a high-flying plane — they want to go — they really do ...

I suppose that it was inevitable that those who didn't really want to jump should attract the most votes. ZZAP's very own Mr Rignall seems to be at the top of the list and he is very concerned. When he asked me how he should go about getting out of this mess I suggested that he should try being pleasant to people which would result in his being ignored. Of course the easier alternative would be to send a few votes in himself, to try and work his way down the list. He put the proposition to his bank manager who simply refused to advance Julian the necessary funds. Strange thing was, the very next day we had some votes from a bank manager, for Julian!

Franco Frey, The Newsfield technocrat, is more than a bit disappointed that he is lying only eleventh in the jump table. I am a little surprised by this as Franco writes quite a lot for all three magazines, mostly on graphics packages, so he really deserves to be considered. Someone at the last ZX Microfair really put his finger on Franco's problem, when he declared that Franco 'was a really nice guy'. The voting trend seems to be for the Newsfield equivalent of a

video nasty, hence the strong showing by the likes of Gary Penn, Julian Rignall and Robin Candy. Send a nice guy aloft — Vote for Franco.

While we are on the subject of video nasties that reminds me of Mr Candy, who in truth is a good



bloke, he's just misunderstood. There seems to be something of an ego battle being conducted between Messrs Candy and Mangram. Each of them see the number of votes as a measure of popularity. This has naturally put Lloyd in a very difficult position, he isn't keen to allow his frail body to be ejected from the back of a Hercules. He is, how-

ever, just as determined not to be shown up by 'that little jumped up poke person'. The CRASH Editor Graeme Kidd seems to be attracting more votes than he bargained for, so many in fact that the worried man was caught actually trying to edit the jump table. I have now taken steps to ensure that the table is kept where Graeme can't find it, on his desk.

The software industry continues to donate prizes. Among the latest contributors are Ocean, The Hit Squad, Incentive and Micromega. The boys from Micromega, Neil Hooper to be exact, sent us a superb letter and what must be World's most awful joke, so appalling in fact we feel that it would be irresponsible to print it. We can, however, make it available to anyone daft enough to want to see it — for a mere five votes a read. And yes Neil, we would like to hear the one about His'n'Hercules. The Ram Jam Corporation have promised to send us a bumper box of prizes and a respectable block of votes. A sudden burst of generosity perhaps? Well not entirely, it seems AMTIX!'s Sean Masterson has upset them. Ram Jam, far from being a bunch of wallies, quickly calculated that

sending a substantial number of votes for Sean would be a lot cheaper than paying the train fare for their heavy mob to come all the way up from London. Smart.

Even John Edwards, the client liaison person, has collected a vote! As yet I have been unable to track down the source but suspect that it may have come from an advertising agency, if so, send more. The Army would be truly grateful of the opportunity to test the lift capacity of a civilian-laden Hercules. I can think of no better way than by sending John, Graeme Kidd and Gary Liddon.

Remember, whoever you chose as a victim, never forget that every penny you send will go towards making a handicapped person's life easier.

This month's voting recommendations: **FRANCO FREY** because he's daft enough to really want to do it, and **GARY LIDDON** because he thinks he's man enough to.

Next month we shall publish, for the first time, the Jump Table so far together with the pleas and excuses of the top six.

I want to jump out of a very high-flying Hercules (He or she may use a parachute at their own discretion)

I enclose a donation of £..... (minimum of £1.00) and no coins please. We get charged for receiving them.

I am frequently known as

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to:

WEEeeeeee SPLAT! PO BOX 10, LUDLOW, SHROPSHIRE, SY8 1DB

THE COMPETITION BIT

Name three flight simulation games

(1)

(2)

(3)

In fifteen words or less, using your skill and judgement and a pen, complete the phrase below in the most apt and original way:

I WANT FRANCO FREY TO JUMP BECAUSE

.....

STOP PRESS! Oli offers original cover painting as a prize for the voters in the Loony Leap Charity Competition!



Doomdark's Revenge Recruited 1 giant, 2 dwarfs, 2 fey, 2 barbarians, 2 mages and killed Shareth
 Spy vs Spy beat computer's black spy on level 5
 Spy Hunter 138,938 on novice
 Underwulde completed 38%
 Way of the Exploding Fist beat 7th dan against computer
 Darren Mawbey, East Preston, West Sussex.

Match Point Beat all levels
 Underwulde Completed 24%
 Knight Lore Completed 82%
 Manic Miner Completed
 Jet Set Willy Completed
 The Hobbit Completed with 87.5%
 Match Day Beat all levels
 Kokotoni Wilf Completed
 Monty is Innocent Completed
 Starquake Completed 49%
 Tim Parsons, Hants.

Monty on the Run 4,200
 Starquake 101,000 and 32% completed
 Factory Breakout Completed
 Way of the Exploding Fist Beat 10th dan 6 times
 Hypersports gone round all events 5 times
 Frank Bruno's Boxing Beat fifth fighter
 Karl Tunnickliffe, Bishops's Stortford, Herts.

Underwulde Completed
 Knight Lore Completed
 Manic Miner Completed
 Star Force 490,000
 Jason DeCat, Hayes, Middlesex

Starquake Completed with 40%
 Atic Atac Completed 93%
 Bruce Lee Completed 4 times
 Codename Mat Completed
 Ant Attack Completed
 Jet Set Willy Completed
 Manic Miner Completed
 Alan Fowle, Corsham, Wilts.

Jonah Barrington's Squash Completed all levels
 Spy vs Spy Completed against computer on all levels
 Hyper Sports 293,573
 Peter J Grime, Oldham, Manchester

Wizard's Lair Completed with 213,530 and 89%
 Starquake Completed with 307,740 and 91%
 River Rescue 220,170
 Fighting Warrior 29,380
 Hyper Sports Completed 8 times round
 Mooncrest 40,005
 Mr X

Welcome to the Slimedome, High Score Seekers. Not a particularly large dose of the thick gooey stuff this issue — but I might be able to persuade the powers that be to let me have a Valley rather than a small hall next ish. See you in 1986!

Decathlon 150,000
 Match Day Beaten 4-1 in final
 Hobbit 22.5%
 World Series Baseball 34-17
 Galaxians 32,000
 Paul Spencer, Glasgow

Wizards' Lair 98,120
 Starquake 122,950
 Highway Encounter 50,000 reached zone 0
 Dynamite Dan 4 sticks of dynamite
 Critical Mass 20,000
 Jonathan Barrett

Frank Bruno Can beat 1,2,3,5,8
 Exploding Fist 10th Dan 36 times
 306,400
 Wizard's Lair 33% 121,100
 Fighting Warrior 97,500
 Popeye 5 hearts back to Olive Oil
 Frankie 98% 97,500
 Nonterraqueous 23%
 Gerrard Cullen

Urban Upstart Completed
 Pyjamarama Completed
 Tapper Punks Bar
 Chuckie Egg Level 21
 Hypersports Swimming 25.9; Sket 9,200; Horse 9.99; Triple Jump 18.46; Weights 195kg
 Archery 4,200 (Stephen said that his sister scored 9,999 at the archery)
 Stephen Cheatley, Blackpool.
 Interesting surname there, Steve! — LM

Bruce Lee Completed 17 times
 Sabre Wulf Completed 82%
 Spy vs Spy Grand Master spy
 Everyone's A Wally Completed
 Alien 8 17 chambers activated
 Jet Set Willy Completed
 Nightshade 27%
 Airwolf 3 men saved
 Oliver Dyer, Cannock, Staffs

Hypersports 178,178
 Football Manager Won FA cup
 Dynamite Dan 5 sticks of dynamite
 World Series Baseball Beat computer 15-3
 Nicola Arrowsmith, Putney, London

NEC Eating 2 in one day
 J Spencer, Ludlow, Salop

Jet Pac 89,763
 Frank Bruno's Boxing Andra Punched
 Rocco Beat the third boxer
 Exploding Fist 10th Dan
 Knight Lore 8 Charms
 Lee Hodgkiss, Blackpool

Sabre Wulf completed 89%
 Atic Atac Completed 76%
 Underwulde Completed 43%
 Booty 72 pieces collected
 Cauldron Collected frog
 Exploding Fist 10th Dan
 Bruce Lee Completed four times over
 Jet Pac 84,650
 Peter Halliday, Carnforth, Lancs

Alien 8 17 chambers
 Bruce Lee 677,550
 Spy Hunter 1,000,150
 Lords of Midnight completed
 Shadowfire Completed
 Chris Tih-Ford, England

Underwulde 24% completed
 Nightshade 115,250
 Atic Atac 115,250
 Nodes of Yesod Collected 7 Alchims
 Way of the Exploding Fist 5th dan with 18,600
 Airwolf 3 scientists
 Pyjamarama Completed with 100%
 Everyone's a Wally Completed
 Full Throttle 1st on all tracks
 Starstrike 2,688,895 without cheating
 Shadowfire Completed
 Marcus Dunne, No address

3D Starstrike 1,351,000
 Beach Head Completed all levels
 Highway Zone 6
 Atic Atac 78%
 Matchday Beaten at all levels
 World Cup Won
 Bruce Lee Killed wizard 6 times
 Damian Tichbourne, Bristol, Avon.

Way of the Exploding Fist 10th Dan, 86,100
 Atic Atac Completed with 86%
 Underwulde Completed with 59%
 Knight Lore Completed after 32 days
 Sabre Wulf Completed with 81%
 Alien 8 Completed
 Ben, Bristol

Arnhem Germans lost 77 units; British lost 9
 Highway Encounter 33,120 screen 9
 LOM Completed both ways
 Doomdark's Revenge Completed
 Death Star Interceptor 23,000
 Deathchase 3D 132,951
 Matchday Scotland 17 England 0
 Spy Hunter 167,280 on expert
 Night Shade 50,000
 Cyclone 13,000
 The Bulge Allied major victory
 Decathlon L Jump 9m; Shot 12m; Discus 75.90m; Javelin 92m; 100m 9.96; 400m 36.4
 John Bannerman

Decathlon 100m 8.64; L Jump 9.87m; Shot 32.41m; H Jump 2.46m; 400m 27.04s; Day 2 110m 9.48s; Vault 5.08m; Discus 75.90m; Javelin 132.68m; 1500m 241.64s Day 2 total 931.462
 M Scott, Kingswood, Bristol.

Starstrike 2,306,210
 Hunchback 1,090,230
 Jetpac 1,050,105
 Knight Lore Completed 84%
 Underwulde Completed 90%
 Booty Completed gold key
 Ghostbusters Completed \$90,003
 Exploding Fist 10th dan 900,010
 Jet Set Willy Completed
 Pyjamarama Completed 72%
 Atic Atac Completed 90%
 Shadowfire Completed
 Kung Fu Black Belt 9th dan
 Manic Miner Completed
 Harrier Attack Completed
 Mugsy 54%
 Football Manager Division 1
 Hobbit 20%
 Airwolf Completed 2 scientists
 Wheelie Level 3
 Alchemist Completed
 Starion Completed
 River Raid 1,230,116
 Urban Upstart Completed
 Paul Hings, Anstey, Leicester



VOTE FOR THE BEST GAMES OF THE YEAR!



Another year is over, and in the time honoured press tradition, CRASH offers you, the reader, the opportunity to vote for those games you feel deserve an accolade.

This is your chance to tell the software business what you think of their programs! Your voice will reach collectively out of these pages in the uniquely democratic manner that CRASH has pioneered (well almost), and inform the world of the best Spectrum games for 1985.

What we have done is to think up 14 categories, and over the page there is a large form to remove from the magazine (or photocopy if you prefer). This should be filled in and sent back to us as fast as you can. Of course there's more to it than that! CRASH is known to be not only democratic but generous to a fault — so the first 15 forms drawn from the bag on the closing date will earn their senders a voucher for £15 worth of software as well as a CRASH T-shirt!

The results of the voting will be published in the March issue of CRASH and the highly valuable certificates of accolade will be awarded soon after to the winning companies.

Get to it!



VOTE FOR THE BEST GAMES OF THE YEAR!

BEST GAME OVERALL

Title & Software House

BEST PLATFORM GAME

Title & Software House

BEST SHOOT EM UP

Title & Software House

BEST ARCADE ADVENTURE

Title & Software House

BEST TEXT-ONLY ADVENTURE

Title & Software House

BEST GRAPHICAL ADVENTURE

Title & Software House

BEST FLIGHT SIMULATION

Title & Software House

BEST SPORTS SIMULATION

Title & Software House

BEST WARGAME

Title & Software House

BEST GRAPHICS

Title & Software House

BEST SOUND FX

Title & Software House

BEST MUSIC

Title & Software House

TACKIEST GAME OF THE YEAR

Title & Software House

For the most outstanding programming achievement of 1985

STATE OF THE ART AWARD

Title & Software House

Please cut out this page from the magazine and send it back to us as soon as possible. **Don't forget to write your name, address and T-shirt size (small, medium or large) on the form in capital letters!**

In each category enter the name of the program and the software house concerned for which you wish to vote. Please note: products must have a 1985 copyright to be eligible. The collated results will be presented as a winner with two runners-up.

There's no need to fill in every category if you cannot think of anything suitable, but obviously the more you fill in the better the end result will be.

Forms should be returned to **CRASH READERS AWARDS, PO BOX 10, LUDLOW, SHROPSHIRE SY8 1DB** to arrive no later than Monday January 20th, when the draw will be made.

Name
 Address

 Postcode
 T-shirt size

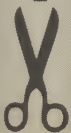


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TECH NICHÉ

THE EXPRESS GANG PART 4

In Which Franco Frey concludes his survey of fast storage media, that allow you to get more out of your Spectrum. Well, more out in a given period of time. And more in, too. That's what Fast Storage is all about really.

LAST IN THE SERIES of fast storage media is the **Timex** disk drive. Featuring its own Z80A processor with external ROM and RAM, the Timex drive treats the Spectrum as a terminal. By changing the interface unit, the system could be connected to any other type of computer — indeed work is in progress at Timex Towers on a Commodore 64 interface right now. Theoretically at least, this means that a change of computer needn't mean making your Timex drive redundant.

The Timex disk system has been designed so that it does not require a single byte of the Spectrum's own RAM memory, and as a result it simply can't interfere with any commercial software. Unfortunately, however, RAM 'photography', using a hardware interrupt switch (similar to the BETA PLUS system) is not catered for. The Timex Operating System (TOS) is the only Spectrum based operating system to include a complete tree-structure directory facility similar to professional systems such as MS-DOS or C/PM. This enables the user to maintain a tidy household containing all the disk files. Other good features are the excellent random and sequential file handling, and the pair of serial communication ports (RS232C) which are fully software supported.

TIMEX DISK DRIVE

HARDWARE:

Hardware abounds with no less than four separately enclosed units. The three main units, con-

hefty coiled cable and D-plug. Up to four drives may be linked to the system, but drives 3 and 4 necessitate an extra power supply. The controller features two serial ports which require special cables with edge connector sockets. The controller also features a system reset button and power LED, while a reset switch on the interface provides a Spectrum only reset. The interface does not feature an expansion port and if the ZX printer or ALPHACOM 32 printer



sisting of the 3 inch disk drive, the controller and the power supply, are fitted in three identical enclosures. The small interface unit plugs into the expansion bus of the Spectrum. Connection to the controller is via a

is to be connected, a T extension connector will be required.

SYSTEM DESCRIPTION:

Unlike all other disk units in this series, the Timex disk system is a complete computer with its

FRANCO FREY'S "SORRY" SPOT Also Known As: ERRATA!

As is usual (and perhaps, inevitable) several errors have crept in during the Fast Storage Series. The worst of the lot was in last issue, with the statement that the OPUS drive has the same format as Amstrad and Tatung — which it doesn't. The timings given for the OPUS drive proved to be wrong: Cataloguing happens in a split second and loading a screen takes approx. 5 seconds not 4.

Dimitri Koveos from Abbeydale Design Ltd, designers of the K-DOS, has cleared up several errors in our Kempston drive review, notably to do with the speed of the drive. The review stated that the drive had a slow access time. As indicated in our comparison table, this is not so — in fact, owing to the clever coding, K-DOS is the fastest system for the Spectrum and apologies are reserved to both Kempston and Abbeydale Design. Sorry. Also, no mention was made of the CLEAR 0 function, which compresses BASIC programs to save memory.

Furthermore, Dimitri reckons the command structure is no more difficult and tedious than the microdrive/wafadrive commands — a point one can argue about ad infinitum.

Running the operating system outside BASIC, BETA PLUS can have very short and simple commands for regular file access and only runs into problems when disk access is required within BASIC, where PRINT USR statements are used for link up.

Further corrections should be sent to the department of errors, Crash towers ...

own Z80A processor. This system treats the Spectrum as a terminal only and the interface passes commands and data onto the controller. The Timex Operating System (TOS) is configured as an extended Sinclair BASIC and resides in a shadow ROM. It has 1 kbyte of external RAM at its disposal for storing the drive characteristics, buffers and variables. These must initially be booted up from any preformatted disk.

The BASIC Extension instructions can either be executed directly from the keyboard or from within the program like any other BASIC instruction. The TOS commands may also be accessed directly from machine code by selecting the external

ROM with a jump to address 0008H. In the external ROM there is a routine to call routines in the BASIC ROM, so that all BASIC functions may be accessed at any time. Calling 0603H or 0604H reselects the BASIC ROM.

TOS supports a subdirectory 'tree-structure'. There is a root directory which may contain other directories. Directories can be nested and the specific route from the file to the current directory is called a pathname. Any Filename extensions such as for example .BAS and .COD may be used to separate the different file types, although only .DIR (for for directory names) and .SCP (for communication channel names) have a specific meaning to TOS.

File names may contain 'masks' or 'jokers'. The plus sign can be used to replace all or several characters in a name field, while the question mark replaces one character only. File names with masks (templates) can be used with most instructions and provide access to a group or batch of files.

TOS supports random access and sequential files. A data file must be opened and a channel for input or output linked to it. INPUT* and PRINT* are the only instructions that allow access to a specific part of a file. When the OPEN #* instruction is executed, the file structure is defined. The file can either be a stream file with no record structure, where you can read or write a variable number of characters up to 256, or a record file with a fixed record length of a specified amount of characters. Stream files can only be read sequentially or in random fashion with an AT command.

TOS provides up to 16 channels. Channels 1 to 4 are fast (each have an dedicated 512 byte buffer) and 5 to 16 are slow (common 512 byte buffer).

The floppy disk controller is equipped with two RS232C serial communication ports (SCP's). These have to be set to the correct format and baud rate by configuring the two dedicated SCP files with a FORMAT* statement. The files may then be opened in a similar way to the stream or record files for sending or receiving data.

OPERATING SYSTEM:

TOS (Timex Operating System) configured as a BASIC Extension.

SYSTEM COMMANDS:

CAT* displays the disk directory contents. The list displays the name, the file type (extension), the file size in bytes, the disk allocation (sectors occupied) and two columns indicating whether the file is write-protected (by means of the TOS software facility, not the write-protect tab). The only two extensions that have special meaning for TOS are .DIR, indicating a subdirectory and .SCP a communication channel.

FORMAT* "drivename" TO "diskname" formats a disk in the requested drive. TOS is copied onto each disk (requiring 16K) for booting up. The directory requires 4K. TOS requests confirmation before proceeding with the formatting.

SAVE* pathname LOAD OPTIONS saves a file to disk. The pathname consists of the subdirectory (or subdirectories) and a filename. The LOAD OPTION may be LINE number for BASIC autorun, SCREEN for a screen file, CODE start, length for a machine code file and DATA arrayname (I) for a numeric or string array. If an existing file is specified, TOS displays a warning with a prompt to overwrite the existing

file (unless the save syntax includes an overwrite enable). If the program saved is called "START" with a linenumber for autorun, TOS will autoboot from a reset if the disk is in drive A.

LOAD* pathname LOAD OPTION loads a file from disk. MERGE* pathname merges a BASIC file from disk with the existing program and variables in the Spectrum memory.

DIM* pathname creates a 0 size file or an empty directory. The use of the path means that files can be created outside the current directory. For a directory, a filename with a .DIR extension must be used.

GOTO* pathname or GOTO* "drivename" d changes the current directory/disk. Special pathnames exist for moving up or down the directory hierarchy. GOTO* "↑↑ ... " moves up one or more nested directories and GOTO* "..." goes to the Root directory.

LIST* displays the current directory location (pathname of source directory, its level and the drive). TOS allows the change of the current directory to another drive without knowing the disk name with a GOTO* "drive name" d.

GO SUB* (pathname) or GO SUB* "drive name" d changes the current directory/disk and stores the return directory/disk on a directory/drive stack ready to be recalled with a DRAW* command. This is very useful for applications requesting a change of directory/disk to perform a task with subsequent return (using DRAW*) to the source directory/disk. TOS allows up to 8 levels of nesting.

DRAW* pops the source directory/disk. Used in conjunction with the GO SUB* command. ATTR* pathname P, U, I or V write/erase protects, unprotects, hides (I) or unveils (V) files or directories. The pathname can be a template, so more than one file can be affected. A Format* instruction can still destroy a protected disk.

MOVE* source-pathname TO destination-pathname copies a file or SCP to another file or SCP. The source is not destroyed or modified.

ERASE* pathname (N) erases files. TOS will ask for confirmation. The instruction will generate an error report if the file is write protected or belongs to a tab-protected disk.

LET* old pathname TO new pathname renames a file, directory or SCP. FORMAT* SCP-pathname changes the configuration of the SCP. The parameters are text or bytes, autolinefeed on or off, software protocol, input with wait, baud rate, parity, and number of stop-bits and data-bits.

OPEN #* expression 1; pathname, mode (expression 2) opens a file or SCP and associates a channel with it for access through PRINT* and INPUT* statements.

PRINT* # n; STR ; (;AT P) writes characters or records to a file or SCP via a channel. Maximum record number is 65535. INPUT* # n; VAR (;AT P) reads a character or record from a file or SCP via a channel.

CLOSE #* expression closes the open file linked to the channel number given by the expression. LIST* # (channel number) lists information of all or specified channel numbers. The information includes the channel number, the channel type (fast or slow), mode (input, output, random, append), type (record or stream), current record (file pointer position), size (file size in bytes) and number of free channels, or if it's an SCP: mode, type, record length (1 if stream), baud rate (50 to 19200), data type (text or bytes), autolinefeed, XON or XOFF and number of free channels.

ROUNDING OFF THE SERIES

A table of all the tested drives concludes the series on fast storage media, and provides a basis for direct comparison of all the different systems available to the Spectrum owner. The various features listed enable any future disk or cartridge drive owner to make up his or her mind as to which drive is particularly suited for the required application.

Before delving into the comparison chart, it would be wise to clearly define what the system is going to be used for. At present it would appear that there is a total lack of application programs to support the disk based systems, and the drives may be regarded as purely tools for BASIC and machine code programmers. Disk drive producers should be made aware of the fact that a very large proportion of Spectrum owners are not dedicated programmers, but are more avid consumers of commercially available software, be it games software or wordprocessing and database packages.

Some effort on the part of drive manufacturers expended in producing application programs for their system could result in an opening up of what is at the moment still a fringe market ...

PRINT* # n; STR ; (;AT P) writes characters or records to a file or SCP via a channel. Maximum record number is 65535.

INPUT* # n; VAR (;AT P) reads a character or record from a file or SCP via a channel.

CLOSE #* expression closes the open file linked to the channel number given by the expression.

LIST* # (channel number) lists information of all or specified channel numbers. The information includes the channel number, the channel type (fast or slow), mode (input, output, random, append), type (record or stream), current record (file pointer position), size (file size in bytes) and number of free channels, or if it's an SCP: mode, type, record length (1 if stream), baud rate (50 to 19200), data type (text or bytes), autolinefeed, XON or XOFF and number of free channels.

ERROR REPORTS :

46 error reports, extensive and detailed.

EXTRA FACILITIES:

Two serial communication ports (SCP'S), baud rate adjustable from 50 to 19200 baud. Utility program provided on disk for operation of LPRINT and LLIST commands through serial port A.

MANUAL:

Excellent manual providing startup and introduction to new disk drive users followed by detailed description of TOS system and commands, directories and pathnames, random and sequential file handling and serial ports application with example programs. Appendix with TOS command summary, error reports, description of utility programs and RS232C connection details. Guidance is provided for the programmer wishing to operate from machine code (detailed list of TOS rout-

ines together with their call addresses) and for error trapping control.

APPLICATION PROGRAMS:

None, but selection of utility programs on disk including BACKUP (copies an entire disk), LOSYS (updates the TOS on existing disks without losing any data on the disk), DUMP (displays selected file on screen in hexadecimal and ASCII notation) and LPRINT (provides LPRINT and LLIST commands for 80 column printers connected to the serial port A).

CRITICISM:

No Centronics parallel port for low-cost 80 column printers available. Extensive amount of hardware cluttering the desk.

COMMENTS:

Excellent TOS with directory filing structure, random and sequential data file handling and full SCP software support.

TOS operates as BASIC extension with very short and uncomplicated commands (unlike microdrive commands) and easy access from machine code is possible through well documented call addresses.

TOS does not use a single byte of the Spectrum RAM.

MEDIA:

3.0 inch hard cased disks in double density format. Price of media starting from £2.70.

TECHNICAL SPECIFICATION:

Number of drives supported per system: 4
Storage capacity: 160K per side
Sector size: 1024 bytes

TIMING:

Formatting: approx. 31sec
Cataloguing: approx. 3.5sec
Loading a screen: approx. 5.5sec

CRITICISM:

- disappointingly slow performance for a fast storage device
- Some users complain of the short cartridge life due to tape roller pinching

CRITICISM: - rare disk format may cause supply problems

CRITICISM: needs more support from software houses

PRICE: £109.25 inc. plus £4 P&P

CRITICISM: Wafadrive is faster than cassette, but a lot slower than floppy disk media. Fairly expensive media. Requires more support from software.

CRITICISM: Requires more support from software houses

PRICE: £199.95 inc. VAT

File CG91B

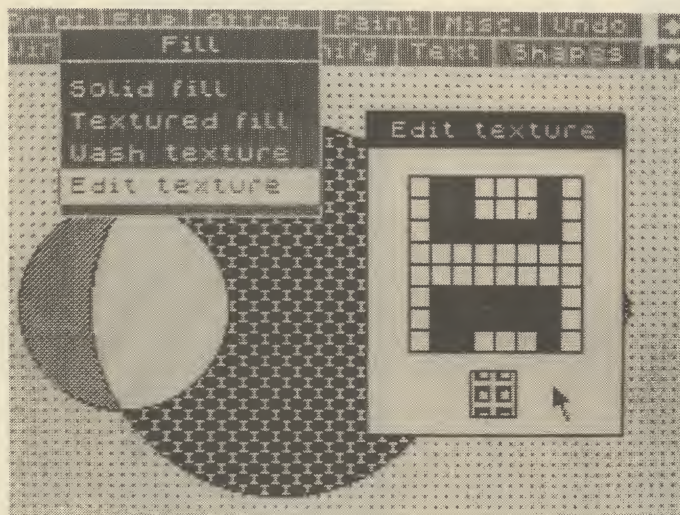
CRITICISM: No expansion port
No random record file

PRICE: £85 inc. VAT

CRITICISM: Extensive amount of hardware

INSIDE THE ART STUDIO

After much eager waiting, ART STUDIO has arrived at CRASH Towers. Franco Frey got his hands on it first, and as a result, was told to write the review. Here it is ...



Having ART STUDIO personally demonstrated by Supremo Without Portfolio, Bruce Everiss, at the last PCW show, everybody at CRASH towers was eagerly awaiting the review copy from OCP. Little was it known that the final copy was to come from RAINBIRD SOFTWARE, a new subsidiary of British Telecom and part of the New Information Services, who have now taken over the marketing of the product. The packaging has not been finalised, so the comments are directed entirely to the program content, which is after all of more importance ...

ART STUDIO follows the popular trend, commercially introduced by APPLE, of basing the program on a windows — icons — mouse — pointing-device concept. The main aim behind this concept is to provide a program which is easily operated by the first time user with all relevant information on the screen and no complicated keyboard sequences needed to access commands. Commands are issued by simply pointing at options contained in screen menus. The pointing device, the icon, indicates by its shape the current instrument or mode.

A menu bar at the top of the screen contains the major headings. Pointing at any of these causes a sub-menu to be pulled down (a window is overlaid). This contains a number of options, which may lead to further sub-menus, or cause certain commands to be executed. An option is chosen by moving the cursor down the list and the options which highlight may be

accessed and chosen by pressing the select button ('clicking' an option). If the option is a command, the pulldown menu disappears and the arrow cursor changes into an icon indicating the present status. Whenever it is moved back into the heading area, the cursor reverts back to an arrow. To remove a menu pulled down by mistake, the cursor is moved outside the sub-menu box and the select switch pressed.

Some menu options are neither commands nor sub-menus, but are flags or switches. These can be toggled on or off to modify the behaviour of other options. The on state is represented by a tick, the off state by a cross.

The full Spectrum screen occupies 24 lines, but the menu bar occupies 3 lines. Two boxes are provided in the menu bar containing arrows, which if accessed by the cursor, will scroll the screen up or down by up to three lines to make the hidden portion of the screen visible.

ART STUDIO comes supplied as a master tape configured to produce a 'personalised' copy of ART STUDIO, which allows you to produce a customised version ready to run under your particular hardware environment. To install ART STUDIO, the master copy is loaded and run. Following prompts, you enter all the required hardware data, and the installing program then saves the 'personalised' copy of ART STUDIO. The data to be supplied for configuring defines the input device, the printer interface and

printer details regarding graphics printing mode. The flexibility of ART STUDIO allows any dot matrix printer to be accommodated and if the user should not have any of the listed Centronics devices, details are given in the concise manual on the three required machine code routines to control the particular interface.

Despite the fact that ART STUDIO is configured to be run by first time users without the need to delve into long-winded manuals, RAINBIRD provide an excellent and easily digestible reference work, which at the time of the review is still in draft form.

RAINBIRD make available to microdrive and Kempston interface owners an extended OCP ART STUDIO at £24.95 (mail order only), which includes Microdrive and Kempston Operating Systems, a screen compression facility and four extra text fonts. Owing to the fact that some lesser-used functions are stored on cartridge or disk as 'Overlays', the program has the ability to maintain a RAM based catalogue, which is displayed within the menu environment of EXTENDED ART STUDIO and includes an extra shape, *Arc*, which is a fractional part of a circle defined by three points. EXTENDED ART STUDIO is also available as an upgrade for £12 inc. P&P by mail order.

ART STUDIO is an excellent state-of-the-art graphics pack-

which speeds up the longer it is moved in the same direction, together with a sensitive micro-switch joystick such as the Flightlink or Voltmace provide an excellent low cost replacement for this expensive controlling device.

The only criticism that could be found, if one tended to be finicky, is that the spray patterns should also have been user-definable, especially as the existing patterns are very inked and don't allow for a fine regulation. At £14.95 ART STUDIO is an excellent buy. For the more pecunious, the pack includes a mouse offer from OCP and a hard copy offer from DIMENSION, who will immortalise your favourite screen creations on a £16,000 ink-jet printer: A4 size at £4.95 and DELUXE (320mm x 250mm) card mounted and gloss laminated at £7.95.

Product: ART STUDIO
Producer: Rainbird Software
Programmer: James Hutchby

EXTENDED ART STUDIO available by mail order from:
 Rainbird Software
 New Information Services
 Wellington House
 Upper St. Martins Lane
 London WC2H 9DL

HARD COPIES available from:
 Dimension Graphics Ltd.
 PO BOX 444
 Buckingham MK18 5LN

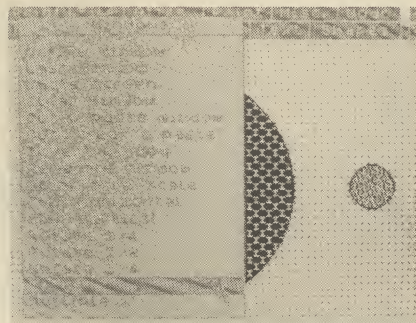
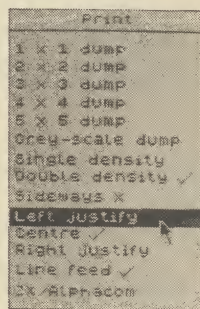
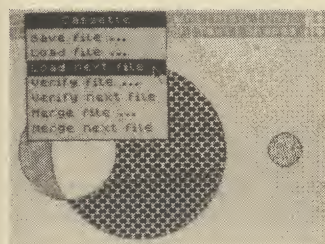
FEATURES

- Windows — icons — pull-down menus — pointing devices
- All information on screen
- Works with keyboard and Kempston, cursor, Interface 2 joysticks
- AMX and Kempston Mouse option
- Dot matrix printer dumps in five sizes and grey-scale
- Supports 17 Centronics and RS232C interfaces
- Save and load pictures to cassette
- Full control over attributes
- 16 pens, 8 random sprays, 16 user-definable brushes
- Attribute grids
- Undo facility
- Windows can be cleared, inverted, cut & pasted, enlarged, reduced, squashed, stretched, flipped and rotated
- Solid fill
- Textured fill — 32 user-definable patterns include stipples, hatches, bricks, roof tiles etc.
- Wash texture facility
- 3 levels of magnification with pixel edit, pan and zoom
- Text — 9 character sizes, 2 directions, sideways, bold
- Font editor — clear, invert, flip, rotate characters or whole font, copy ROM, capture font from window
- Save and load fonts to cassette
- Lines, rectangles, triangles, circles and rays
- Snap and elastic shapes

age and must be the best available for Spectrum owners. Despite the fact that the very structure of the program is based on a mouse operated system, the intelligent cursor,

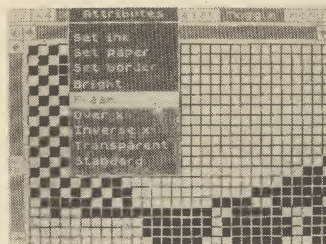
PRINT

PRINT provides facilities for hardcopy on a dot matrix printer. Five sizes dictated by number of dots on paper to one dot or pixel on screen. Height to width scale depends on resolution of printer selected, ie number of dots per inch on a line to line spacing pitch. Two resolutions can be accessed within ART STUDIO, single density and double density. No colour information is used unless grey scale dump is used. Here the different colours are represented with stipples of varying density. Grey scale dumps are always in a 3x3 size. The picture can be printed sideways, allowing bigger dumps, or from top to bottom, and can be situated left, right or in the centre. If an 80 column printer isn't available, the screen can be dumped to the ZX or ALPHACOM 32-column printer.



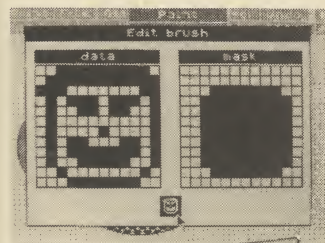
FILE

FILE features all the commands for saving, loading and verifying screen files to and from tape. The files must be either SCREEN files or CODE files not longer than six and three quarter kilobytes. Saving will prompt for a file name. For loading, verifying and merging a file name can be specified or ART STUDIO can be instructed to load, verify or merge the next file on tape. A tape file can be merged with a current screen file either on an OR basis (if the OVER switch is off) or on an XOR basis (if the OVER switch is on).



ATTRIBUTES

ATTRIBUTES deals with the colour control. The attributes once set apply to all painting and drawing that is done via shapes, pens, brushes, fills and text. All ink and paper colours may be set including transparent. OVER and INVERSE can be toggled on or off, transparent sets all attributes to transparent and STANDARD sets the attributes back to their default values.



PAINT

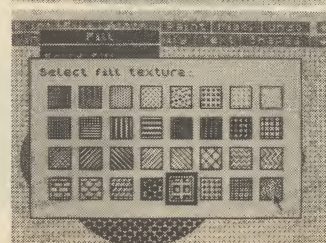
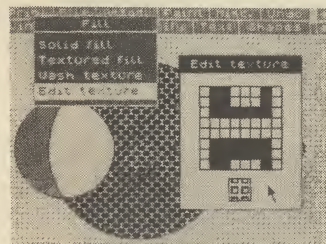
PAINT provides access to the various drawing tools.

Selecting PEN displays the sixteen pens available. The pen sets pixels by pressing select or if the INVERSE switch is on, resets pixels (erasing function).

8 SPRAY CANS of varying diameters spray a random pattern of dots on the screen. If the spray can is held in place, the dots build up to a solid disc.

16 BRUSHES are available of various sizes and designs and each brush has an associated mask with it. When a brush is used to paint on the screen, first the pixels corresponding to the mask are reset, then the pixels corresponding to the brush itself are set. The first brush in the menu is a null brush and can be used to colour an existing picture with new attribute settings without upsetting the screen pixels.

Each of the 16 brushes can be edited. To edit a particular brush, it must be made the current brush. The newly edited brush can be used by simply pointing the cursor at it's normal size image in the BRUSH EDIT window and pressing select.



FILL

Apart from the usual solid fill, ART STUDIO provides a TEXTURED FILL which displays a menu containing the 32 textures available, from which a choice has to be made. All fills are done in the current attribute settings (INVERSE and OVER does not apply) and can be aborted with CAPS SHIFT and SPACE. The texture at the end of the first row is a null texture and is useful for setting the attributes within a section of the screen without altering any pixel states.

WASH TEXTURE maps a chosen texture onto any pixels on the screen that have been changed by a previous operation. This provides the facility of texturing outlines or even text.

Each of the 32 textures can be edited by making it the current texture and calling the EDIT TEXTURE window. The new texture can be used by clicking its normal sized image.

WINDOWS

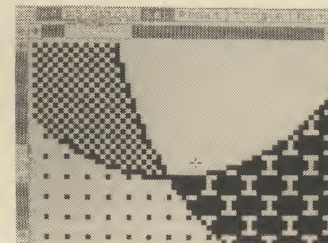
WINDOWS sets up a rectangular section of the screen marked by a dotted outline, upon which certain functions can be performed.

CUT & PASTE copies the window to another area of the screen by displaying a duplicate dotted outline which can be moved around and set. Similarly CUT, CLEAR & PASTE copies the window but clears the source window. Multiple copies of a window can be made with the MULTIPLE switch on. MERGE combines the copied window with the existing screen contents on an OR or XOR basis depending on the state of the OVER switch.

A window can be enlarged, reduced, squashed or stretched by using the RESCALE option, which works similarly to the normal window copy command, but allows the destination window to be re-defined in size. This function is extremely useful and provides a replacement for the missing ellipse function in SHAPES. Windows can be inverted, flipped, mirrored and rotated or just simply cleared.

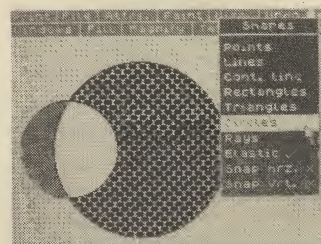
MAGNIFY

Three levels of magnification are available with facilities to edit pixels, pan and zoom the current screen part. Selecting a magnification converts the arrow cursor into a magnifying glass which can be positioned over the required screen area. Three modes of editing are provided under magnification, SET, RESET and TOGGLE. The ATTRIBUTE menu is available directly from the menu bar. The area magnified can be scrolled over the entire screen area by clicking the boxes with arrows in them, or homed by clicking the box containing the linked squares. White bars between the pairs of arrow boxes indicate the relative position of the magnifying window to the whole screen. The magnification can be changed at any time by clicking the appropriate magnification box. A grid is available in the x8 magnification mode with one square in the grid representing one pixel on the screen. This grid can be switched on or off from the initial Magnify menu.



SHAPES

SHAPES provides up to seven different drawing routines, namely single point, lines, a continuous line, rectangles, triangles, circles and rays. All shapes are drawn (in current ink and paper colours) by moving the cursor about the screen and pressing select to define the vertices. Shapes can be drawn elastically by setting the corresponding switch. The shape can be expanded or contracted on screen until it is the right size and then fixed with the select switch. Again similar to text, the vertices of shapes can be snapped in two directions to come within attribute boundaries.

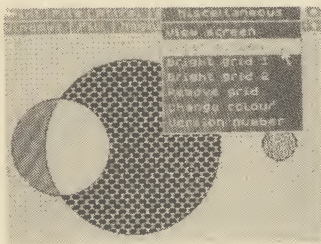


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MISCELLANEOUS

VIEW SCREEN removes the menu bar to display the entire screen.

Both grids use alternate bright and normal squares and can be used to position details within the attribute grid to cause minimum clash of colours. **CHANGE COLOUR** works in conjunction with a defined **WINDOW** and changes one colour into another as specified in the **ATTRIBUTE** menu. Paper is the source colour and ink is defined as the destination colour. The option then converts all occurrences of the source colour to the destination colour.

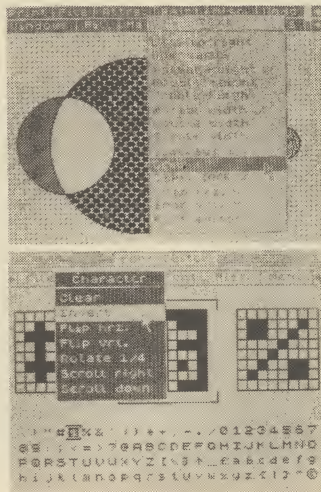
TEXT

TEXT can be printed in two directions, left to right and top to bottom, in normal or sideways orientation. Three character widths and three character heights provide up to nine different sizes. A bold switch is provided which prints characters twice with a one-pixel shift. All characters are printed in the current ink and paper settings (Inverse and Over apply), and provision is made to **SNAP** characters into attribute squares in both directions, horizontal and vertical, so that they occupy an exact amount of attribute characters.

The **FONT EDITOR** enables the editing of character sets (fonts). There are 96 characters in a font. Whole new fonts can be created and stored on cassette, and loaded into memory as required. The 96 characters are displayed at the bottom of the screen, with the current character marked in vertical brackets. The current character and the characters immediately to its left and right are shown in enlarged form above the font. Pointing to any character in the font and pressing select makes it the current character. Alternatively, the current character can be scrolled through the entire font by clicking the boxes with arrows. The character may then be edited by toggling the pixels on or off.

Special operations can be performed by pulling down the **CHARACTER** box. This includes clear, invert, flip horizontal, flip vertical, rotate, scroll right and scroll down. The same set of operations can be performed upon the font as a whole by pulling down the **FONT** menu. The character set contained in the Spectrum's ROM can be loaded into **ART STUDIO**'s font.

CAPTURE FONT copies blocks of pixels



from a defined window on the screen in the font and can easily be used to create user defined graphics. Fonts can be saved and loaded from cassette. Character sets created with **ART STUDIO** can be used in the user's own program with a simple BASIC routine.

THE PLASTIC POLICEMAN

Just about every known technique has been used to protect Spectrum software against copying. This month Tech Tips looks at (and hopefully), through Lenslok, the latest trick to reach the Spectrum marketplace. But first, Simon Goodwin puts protection into perspective ...

Spectrum software has always been protected to try to stop illegal copying. The aim is to make the code run straight away, so that copiers can't save after loading.

Many early programs were saved as **CODE**, partly to make them hard to copy with a normal **SAVE** command, and partly to give the impression that the program was written in machine code when in fact it was probably written in BASIC.

CLONE ME ANOTHER

At the start of 1983 the first

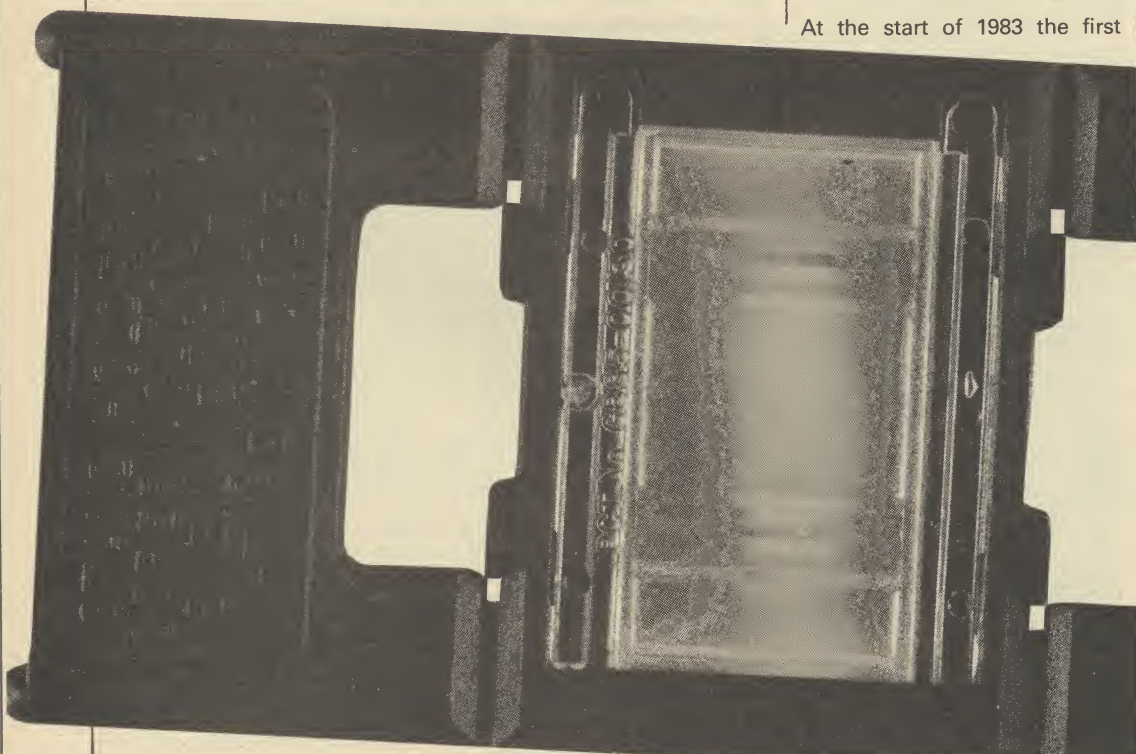
'clone' programs became available — programs to read any tape into memory and dump all of the data back onto cassette. These programs hit the software producers hard — a cloned copy was as good as the original, having come directly from the computer. Clones could be used to make any number of further copies, whereas tape-to-tape copies were inferior, and could only go through two or three generations before the hiss and distortion added at each step made further copying impossible.

The first response was to increase the size of the files to fill all the Spectrum's memory. This defeated the simple copying programs, which were 'crowded out' of RAM, but it made loading slow and created technical difficulties for the supplier. The pirates soon caught up and wrote programs capable of copying even a 48K file.

BEHEADING THE FILE

Software houses retaliated by re-defining the way in which programs were stored on tape. Spectrum files are written in two parts: a fixed size 'header', containing the file name and other details like its size; and a second part containing the data itself. Clone programs use the information in the header to work out where to store the rest of the file. This approach is foiled by the 'headerless file' — a short program is used to load a file with no identifying header. Without the header a simple clone program can't copy the rest of the file.

Another approach was to encode 'extra' information on the tape. One simple trick was to record a brief period of silence



onto the tape, between one file and the next — this quiet moment on the tape can be detected by simple software to read the cassette port. Most clone programs ignore gaps and pack files together on tape. Illegal copies can be detected because they are missing.

One Dk'tronics program used a short 'tune' at the end of the tape, immediately after the program. The sequence of notes was ignored by copiers, since it did not form part of the file, but the program checked for it and crashed (pretending there had been a loading error), if the notes were not present. The whole tune lasted for a fraction of a second, so it was almost impossible to detect the notes by listening to the tape.

ROM WAY

These tricks worked, in the sense that they put off the majority of casual copiers, but there was a constant battle between the authors of protection routines and clone programs — in some cases these were the same people!

The root of the problem was the ease with which cassettes could be copied, and Sinclair responded by borrowing an idea from Atari. That US firm was the first outfit to publish computer games in chip form — on plug-in cartridges. Sinclair produced the Interface 2, an adapter to allow the Spectrum to accept cartridges.

This idea failed, for a host of reasons. Unlike the Atari, the Spectrum already had a well established, reliable and fast cassette interface. Interface 2 was expensive; it included a pair of joystick ports, but these were not compatible with many games.

The cartridges themselves cost more to produce than tapes. They took a long time to manufacture and were limited to a 16K capacity, regardless of the memory of the computer. Programs were becoming more and more sophisticated — few software houses were willing to shoe-horn their next megagame into 16K.

A few games were converted for the format, but nothing new was launched on cartridge, again denying users any reason to buy the ROM interface. Mikro-Gen have recently relaunched the idea at a more reasonable price, but it seems unlikely that Spectrum ROM games will ever take over from cassettes — the performance improvement is too marginal.

THE COMING OF COLOUR

Meanwhile, trick tape schemes became more and more devious, and increasingly irritating for the producers as well as the would-be copiers. Then

Software Projects came out with *Jet Set Willy*, a game that used a quite different system of protection.

The JSW tape is quite easy to copy, but there's a colour-coded table printed in the cassette inlay. When the program is loaded it displays a row of randomly coloured blobs — these have to be matched up with the table, and appropriate keys must be pressed before the game starts.

The system has several snags — it is irritating for legitimate owners of the game, who have to go through the same ritual every time they want to load their copy. It is also a major obstacle for those with poor eyesight or grotty TV's. And the colour-coded chart turned out to be quite easy to copy — once the colours have been written as letters it takes less than 10 minutes to copy the whole chart, and the job can be done several times over in the course of a boring lesson!

HYPERLOADS

So software houses went back to tinkering with their tape recorders. The next step was to completely change the way in which programs are recorded, by re-defining the tones used to represent each bit of information on the tape. This approach

allows programs to be loaded more quickly, since the tones can be more densely packed onto the tape.

Thus the first of the so-called 'Hyper-loaders' came into being. They have a big weakness. They are often unreliable — the densely-packed tape is more prone to the effects of duplication faults, and some early systems used high-pitched tones which could not be reliably reproduced by cheap tape players.

Many software producers deliberately made their systems intolerant of uneven levels or background noise, in the hope of detecting tape-to-tape copies. This led to loading problems for legitimate users of original tapes, and Hyperloads gained a bad name, both with retailers and customers.

ENTER THE LENS

At this point software producers were pretty stumped. They'd fiddled as much as possible with the two component parts of a software package — the tape and the documentation — but they still couldn't stop photocopyers and tape-to-tape copying. They'd tried to by-pass the cassette altogether, but ROM cartridges had failed because they were too expensive and

required special equipment (Interface 2).

What they needed was something cheap, small (so that it would fit into a cassette box) and hard to copy. Unlike Sinclair ROMs, it must work with the standard equipment possessed by every Spectrum user. Electronics was out — tape scramblers, 'dongles', ROMs and so forth are expensive and hard to manufacture in bulk. The solution was to use the only part of the system that had not yet been harnessed against illegal copying — the TV set.

TV's and micros both work by displaying a pattern of small dots which look like pictures, or text, when viewed from a distance. The first diagram shows the way a letter A might be represented as a pattern of dots.

A DISTORTED VIEW

Wedge-shaped transparent plastic prisms can be used to deflect light. Take the pattern of dots in the figure A, in diagram one. If you look at a same pattern through a group of narrow prisms, the columns can be swapped around — as light passes through the arrangement of prisms, the order of columns can be scrambled, so that they don't form a pattern representing a recognisable character.

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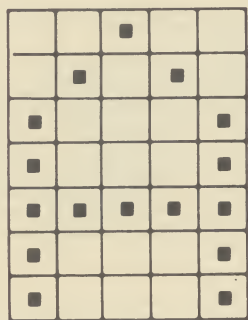


Diagram One

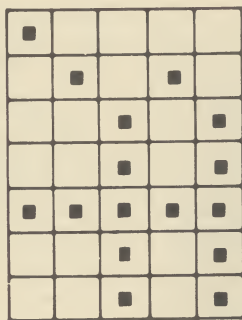


Diagram Two

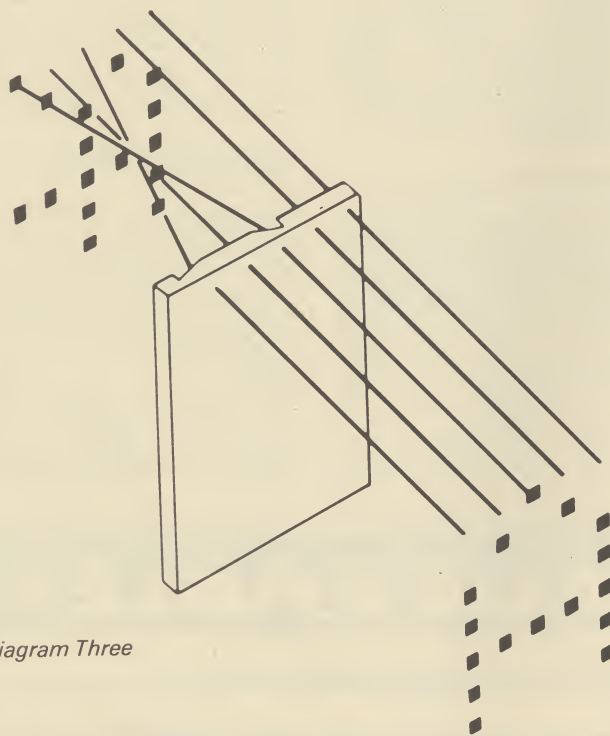


Diagram Three

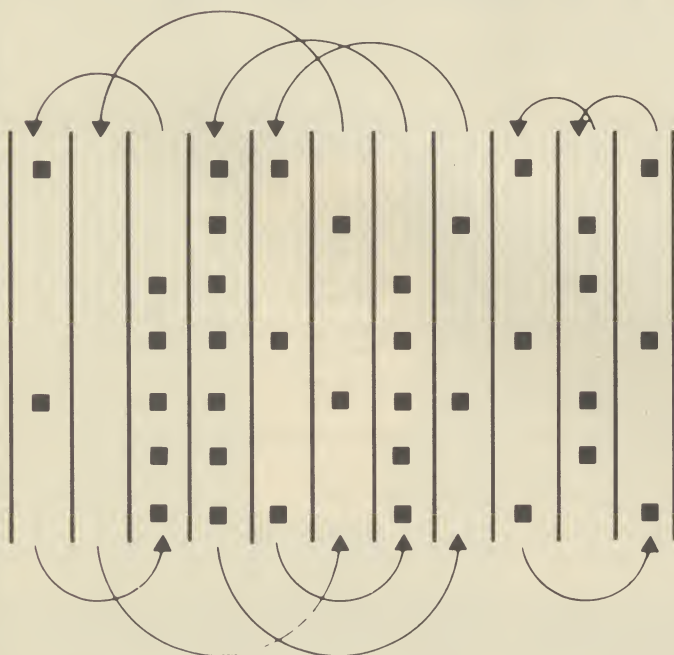


Diagram Four

See diagram two.

The columns are always swapped in the same sequence by a given group of prisms, or 'lens', so it follows that a lens used to scramble the dots which make up a letter can be used to un-scramble a pattern of dots produced by swapping the columns in a letter, providing those columns have been swapped round appropriately. This is shown in the third diagram.

This principle forms the basis of **Lenslok**, an optical 'key' invented by a new firm called ASAP Developments. (Indeed, the diagrams used here are taken from their brochure — with thanks.) Lenslok is used on new Spectrum programs like *Elite*. Interestingly, Firebird also use headerless files in *Elite*, which will make Microdrive owners legitimately angry — yet again they have to resort to subterfuge to get their games to load onto Microdrive. One would have thought that Lenslok protected their Microdrive copies just as well as their cassette. Perhaps this 'belt and braces' approach is a sign that Lenslok has weaknesses ...

WORKED EXAMPLE

Anyhow, *Elite* displays a scrambled pattern when it is first loaded. If you look at the pattern through the lens you see two characters, and you have ten seconds to type them at the keyboard. If you've not got the lens all you see is a jumble of dots. If you can't type the correct characters within three tries — and there are hundreds of possibilities — the computer resets and you have to re-load the program before you can try again.

Two characters are used, rather than one, since this makes it much harder to guess the correct code — there are more possibilities and the columns which make up the two characters can be inter-mingled. Some columns on the screen are not visible through the lens at all, so it is difficult to recognise the patterns by eye, especially when you only get ten seconds to think about it! Diagram four shows the way that two characters can be muddled together.

There are millions of possible 'scrambling' patterns, so that a different scrambling routine, and hence a different lens, can be used for every program. It's no good trying to use the lens supplied with *Elite* to get started with Digital Integration's *Toma-hawk*, for instance ...

The lenses can be moulded in one piece from polystyrene (like parts for model kits) so they can be economically produced in small numbers (but not on the kitchen table); a few thousand lenses cost less than 20p each. Each lens comes in a holder which fits inside a cassette box — there are even holes for the prongs which hold the cassette spools.

However, display units vary enormously — the rich and famous have crystal clear monitors, some people have old 26 inch tellies, some use black and white portables and so on. Lenslok has to cope with every possible variation, with the exception of Uncle Sir Clive's Microvision, which luckily doesn't have an aerial socket!

The answer is to let you scale down the display to suit your TV. The Lenslok software displays a pattern which can be expanded or contracted to match the width of the lens holder. In theory, the computer can use this to work out the size of your telly, and hence the width of each column in the scrambled pattern — the bigger your TV, the less dots there will be in each column, since the display must be the same physical size on any set if the lens is to work.

I say 'in theory', because I found that in the case of *Elite*, the lens worked best when the pattern was set up rather wider than the lens holder; but this wasn't too much trouble since, like most people, I treat instructions with healthy scepticism! As part of the set up routine, the computer displays the pattern for the letters "OK" as you expand or contract the display, so it is easy enough to set the right size by eye.

There are a few pitfalls for the unwary; the lenses don't work unless you look directly into them, so you can't use them properly if your TV is on the floor or on a high shelf. They don't work if you've got both eyes open, and they have to be lined up quite carefully to avoid distortion of the image.

That said, Lenslok is a major step forward in the Spectrum software market, because it is an effective way to dissuade tape-to-tape copiers. It remains to be seen whether or not Lenslok will make a major difference to the amount of copying that goes on — *Elite* is not much fun without the instructions anyway — but if it does, that's good news for everyone that buys software.

Micro software is becoming more and more sophisticated and development costs are going up and up. Some of the best ideas never make their way into code because they would cost more to develop than could be recouped from sales — if the pirates take their cut. Effective software protection, at a low cost, ought to bring down the price of top software. It could also encourage software houses to produce some of the special-purpose programs which never see the light of day at the moment.

Don't turn a blind eye to Lenslok!

Further details on the Lenslok system can be obtained from ASAP Developments Ltd, 65 Holborn Viaduct, London, EC1A 2DR

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 - ★ Texts can be printed out on any line length up to 128 characters.
 - ★ Text blocks of any length can be transposed, copied or deleted.
 - ★ The OCP program can print out text while another is being written or edited.
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WIN SIR CLIVE'S BIOGRAPHY AND HALF A LIBRARY'S WORTH OF SPECTRUM BOOKS

In the DUCKWORTH's Bookworm and Software Competition

The people at Duckworths, publishers of Rodney Dale's biography of Sir Clive Sinclair, are going to give six lucky CRASH readers plenty to read in 1986. Rodney Dale was one of the founder members of Cambridge Consultants, and has been associated with Sir Clive for over twenty years. Now he's drawn on a wealth of personal experience (and some of the Sinclair Research Files) to write a fascinating biography of the man behind the British home computer market. Appearing as a hardback book, *The Sinclair Story* should provide a good read for any Spectrum owner.

Next issue, we'll be running a full review of the book — our Reviewing Minion has already read it, and is well impressed. By way of a little taster, we are able to offer six copies of *The Sinclair Story* as part of a Duckworth's Prize Package. Also in the large parcel of books the six winners will receive in due course, are the following Duckworths titles: *Exploring Adventures on the Spectrum* (including the cassette, which allows you to load the example programs straight into your computer without lots of typing in); *My Spectrum Computer and Me*; *The Spectrum Adventurer*; *Spectrum Graphics* and *Spectrum Programs*. More than enough reading material to get your brain going. To add to the prize, there's also a couple of pieces of software: *Tycoon* and *Poker* from the folks at Ducksoft.

Sir Clive has been responsible for a number of innovative products. He's not just a computer man, you know. He first made his name selling construction kits mail order to electronics buffs, and was the brains behind a range of tiny products such as the Micromatic mini-radio, pocket calculators, the Black Watch and HiFi separates — all before he got involved in computers.

What we want you to do, is apply your inventive brain to dreaming up a new product for Sir Clive. You can leave the computer side of things to his development engineers — we don't want any MORE speculation on the 128K Spectrum, or Spectrum Portables or anything like that. And we can probably survive without any C5, C6 or C1 jokes, too. No, what we want is a brand new product (probably something tiny, and to do with electrickery to be true to form) that Sir Clive might launch during 1986.

Get your thinking caps on, and come up with a product design. You can draw your New Doobrie, or just write about it — or pop a prototype in the post if you like.

Whatever you decide to do, get your entry in to THE SINCLAIR STORY, PO BOX 10, LUDLOW, SHROPSHIRE, SY8 1DB to arrive by 30th January, when the great Sinclair New Invention Comp will be judged by a specially selected panel of CRASH Minions.



RESULTS EXTRAVAGANZA



IN WHICH YOUR COMPETITION MINION STRUGGLES WITHOUT HIS ALPHABETISER

Another year comes quietly to a close, and casting an eye over the competitions I've arranged for you ungrateful lot to enter over the Christmas hols I'm left dreading the 30th January. It's going to be another thirty-six hour stint, locked away in the broom cupboard with nothing to keep me company but a letter opener and boxes and boxes of comp entries and a broken alphabetiser for company (that's why you're going to have to look a bit harder this time, to see if you've one a prize).

Still, I should have learnt by now, that you lot aren't interested in my problems. It's prizes, prizes, prizes all the time as far as you're concerned. Not even a Chrissy card for your faithful minion, I know. "Can't afford the stamp — need it for my competition entries" I hear you cry. Hah!

Oh well, on with the results. You may notice that the **SCOOBY SNACK** comp results aren't included this issue. Don't fret - there were just sooooo many good entries that judging was still going on while the Art Dept were screaming for this bit of typesetting so they could finish the Christmas Special and go home for an early dose of Turkey and Pud. February Issue, without fail. Promise.

JUGGERNAUT COMPETITION

Well well, There's a lot of CB owning **CRASH** readers out there in the great wide world. Lots and Lots of entries, and most of them correct. **KERRY BOSTOCK** of Highfield Drive CH7 2AL was the first person to pass under my scrutinous (sounds nasty, doesn't it?) nose. A Video of the film **CONVOY** will be on its way to you, as well as a copy of the game.

And you lot, listed here, haven't got too much to moan about. Copies of *Juggernaut* on their way to you, too. Toodle Ooo!

A Anonymous, Burnaston Road, B28 8DH Caroline Pettit, Hawthorn Way, CB8 9XZ Neil Wood, Scholfield Road, Coventry Marc James, Main Street, LE12 5PE Catherine Shaw, Simons Close, SK13 9NE David Ainsworth Brockholes Crescent FY6 8HU P Bullough

Meadow Drive HR4 7EF Richard Butterfield Gold Street Yorkshire M Collins Ermin Street GL3 4HW C Crane Constance Avenue ST4 8TE Matthew Denton Dothans Close Bedfordshire Derek Flint The Gardens DE5 8JW J Gillingham Newman Road EX4 1PH J Harvey Sawley Road DE7 3EF S Holland Rothersthorpe Road NN4 9HY A Hulmes Mayfield Road WA15 7SZ C Jackson Causeway PE21 7AR J Jackson Pinehurst Road SN2 1QF C Johnston Fieldway Crescent Isle Of Wight Jason Lofthouse Herbert Street BB12 8RH B Learoyd Wellstone Avenue L13 4EH G Moore Lower Street GL5 2HT J Morrison Gopher Avenue G71 6HR R G Smith Lichfield Drive II19 8AP J Stevenson Rothley Way NE6 3EW P Talbot Headland Avenue DN22 5AB Lydon Tymins Gladstone Street B71 1ET Andrew Mason Woodland Way, SO5 9HE

MACMILLAN FOOTIE COMP WINNER

D I Harris, of Gainsborough Drive WV6 7NR is the lucky person whose entry was the first correct one out of the football competition box. A trip out in due course for him or her and a copy of MacMillan's *World Cup Soccer* for the rest of you listed here:

D Robertson Moulsham Drive CM2 9QA J Rolph Penrhyn Road Far Cotton NN9 4EE C Mil Homens Rippon Way AL4 9AJ M Richardson Earlescourt HU6 8BD P Newton Sandringham Crescent East Herrington Tyne & Wear A.R Mellett Beaufort Road Frampton Cotterell BS17 2AD J.R Bartlett Irsley Gardens GL3 3AU C Stefanuti Nether Hall Road BD17 6QD N Knowles Winstree Road CM0 8ET A Higgett Bedonwell Road DA7 5PW R Nicholson East Street M34 5BX C Midghall Irwell Birch Green WN8 6JZ R Young Jubilee Road BS23 3AW P Redington Martin Grove SM4 5AJ J Hoar Foster Road CM9 8PZ J.D.S. Carvalho Rua Guerra Junqueiro Coimbra 4 Portugal D.A Stevenson Broad Walk SE3 8NE C Moss Godmans Lane CO6 1NE J Wilson Angle Terrace NE28 7BQ S Stephenson Hough Road NE66 3JT S Northwood Hazelwells Road Shropshire P Sennett Yeading Lane UB4 0EN S Moore St.Richards Drive West Sussex M Jenkins Walton Road KT8 0HZ A Taylor Manor Hall Road BN4 4ND A.G Pratt Holberry Gardens S10 2FR J Short Ty Perllan LL36 9NF M Bullock The Greenway HP10 8BX R Whittington School Lane

WN6 0TE N Brownlee Winston Place TD1 2EL M Bell Shore Road BT22 2RP K Tennant Argyll Road Scotland G Duncan Scotland Drive KY12 7TW S Mahlane Hastings Road N11 2RJ M Franks Ladywood Road West Midlands R Judd Croxdale Terrace NE1 0RR N Grantham Irving Road CV1 2AX L Ainsworth Brockholes Crescent FY6 8HU W Kingsberry Holywood Road BT4 2PA A Stevens Badger Road S13 7TX S Houlet Summerlands Park Drive TA19 9BW I Muir Crofthead Drive Cramlington Northumberland M Kilner Heathcote Avenue AL10 0RH M Aldridge Greenfern Avenue SL1 6AQ K Greener Featherstone DH3 4NB G Webster Church Road WA11 8QH S Hogan Green Acre NG8 4DT P Tabor Fairview Grove WV11 1BZ P Sheppard Alstone Lane GL51 8JA

DALEY'S SUPERTEST RESULTS

Allright, smartbootsies. O'War an' all! Just you play Minion's Revenge this issue. That'll teach you. Fifty copies of *Daley Thompson's Supertest* go winging off to the following persons:

N M Robinson Marks Road RM7 7AF A Hulmes Mayfield Road WA15 7SZ F Wedge Newhall Street WS11 1AD G Taylor Hartlebury Way GL52 6YB C Roberts Swanmere Park SY12 0NA H Evans Wennington Road PR9 7TN I King Foxyard Road DY4 8BH J Blakeston Sydney Grange HU3 3SL J Prior Suttlej Road SE7 7DB M Hanney St. Benedict Crescent CF4 4DQ S Bowran Merden Avenue SO5

WINNERS WINNERS WINNERS

1EJ J Gomez St.Johns Avenue NW10 4EE F Oattes Burg mostermanslaan 17 5737 The Netherlands R Brady Edward Road RM6 6UH T Hardman Walter Street WA1 3TE T Barber Lingswood Park NN3 4TB The Occupier Kingswood Road IG3 8UB D Saunders Station Road S63 7DG D Gray The Broadway DY1 3EH J Gott Bracken Bank Grove BD22 7BG D Maytum Mortimer Road BM8 9HP A Young Lothian Drive EH22 4EZ K Enticott CH3 7BA R King Dunmore Street G63 0TX N Knowles Winstree Road CM0 8ET R Norfolk Grays Close ST7 3LU J Sims Laburnum Road UB3 4JY J Aron Bruntwood Lane SK8 1HS I Billingham Meredith Road Sedgley J.G O'Brien Tamworth Lane CR4 1DH R Rock St.Hughes Avenue HP13 7TZ M Bodger Great Cambridge Road EN1 4DB P Redington Martin Grove SM4 5AJ C Smith Southcoates Avenue HU9 4PP M Sayer Stiencroft Road LS25 5AX A Cop Archers Ride Herts A Higgott Bedonwell Road DA7 5PW D Gritz Cairn Court FY4 2QQ M Reeve Inverness Road N18 2EE A.J Fairbairn Red Lonning CA28 5XF B Connelly Hilton Road G64 3EB G Pugh Ascot Close CF5 5BE D Shiach Dailuaine Terrace AB3 9PX C Brown Hafod Las Pencoed CF35 5NB A Macleod Macaulay Road PA87 2HB J Woodall Staveley Road HU9 4UA P Orrock Pullgr Terrace PH1 2QFN Wilson Weekites GU7 2DB S Lilley Raynham Crescent BD21

2TP B Gavin Uppingham Road LE5 4DP

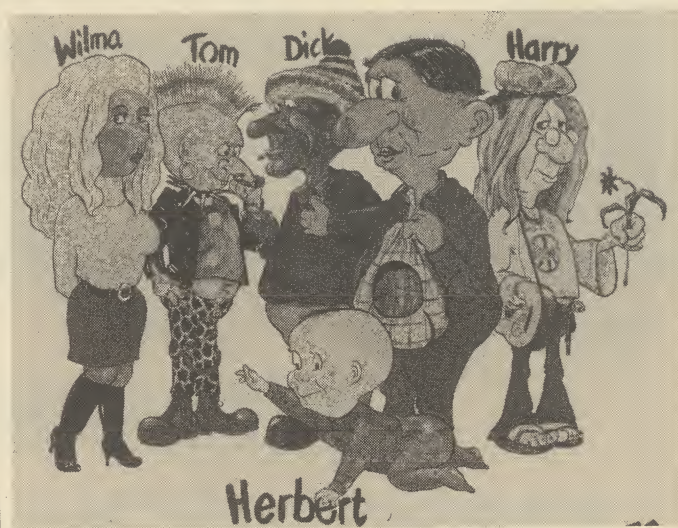


CRASH QUIZ (ROBERT LEEDHAM COMP)

Very nearly slipped through the Minion's Finely cast net this one. The CRASH Towers mice have been eating it. Three people can thank Robert Leedham for helping them win a T Shirt and 1/25-worth of software. They are: **Stephen Rutherford**, Robsland Avenue, KA7 2RW; **Colin Mather**, Carlisle Close, Dunstable, Beds and **Martin Wakely**, Orson Leys, CV22 5RF

Three more people should be nearly-as-grateful to Uncle Robert, as they win a T Shirt each, thanks to his Quiz: N

Hewitt, Northmoor Way, BH20, 4EG **Harry Maton**, Leslie Park Road, CR0 6TN and **J A Morison**, Sceptre St, NE4 6PR



WALLY QUESTIONNAIRE WINNERS

At last we've collated the results from the Wally Questionnaire wot was set a while ago. Lack of space prevented a smidgeon of the findings finding their way into this issue, but 1986 is going to be a whole new year. A trio of Wallies will start the year with a new CRASH T shirt and CRASH hat each. They are: **Jon Stewart**,

Roseanne Archenfield Road, HR9 5AY; **Tom Haigh**, Newhall Lodge, B76 8PH and **Mark Oldham**, Bratray Drive, M24 3WW

And that's all for this year. Have a lucky 1986!

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My top five programs are:

TITLE	VOTE OUT OF TEN
1	
2	
3	
4	
5	

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Address

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Send your coupon to: **CRASH HOTLINE, PO BOX 10, LUDLOW, SHROPSHIRE SY8 1DB**

My top five favourite programs in descending order are:

TITLE	PRODUCER
1	
2	
3	
4	
5	

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| 308 | WILLOW PATTERN | 315 | CHICKIN CHASE |

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48K Spectrum

chronicles of the land of fairlight
1. a prelude: the light revealed

Fairlight



BY BO JANGEBORG

(author of 'The Artist')

"Maybe *the* game of the year!"

Your Spectrum, November 1985

"... one of the most sophisticated games the Spectrum has ever seen."

"... one of the ten best programs ever made for the Spectrum."

Popular Computing Weekly, October 1985.

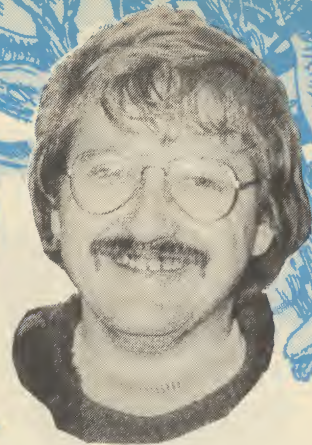
"... the best arcade adventure of the year."

Your Spectrum, November 1985



DEREK BREWSTER'S

Adventure Trail



YOUNG AND INNOCENT (Daddy, What was the future like?)



IT IS ALWAYS a difficult task summing up a year in home computing. Even more difficult is to try and predict what the coming twelve months might unleash upon us. I say unleash because whatever else might be said about the home games world, it is never dull: the competition is ruthless, and it is peopled by the sort of mathematical genius who is past his mental zenith at the age of twenty-five years, give or take a few million brain cells.

The press and media are at a loss to explain why Britain, a rather insignificant and petty nation, should concern itself with such an exciting and blatantly intellectual pastime. After all, isn't this a country in decline, a divided nation where the people who read the lightweight newspapers await an answer to all the problems while the people who read the heavyweights are struggling hopelessly with the economic conundrums of interest rates and exchange rates. Perhaps it's time to start thinking straight and doing things which come rather more easily to nations not so schizophrenic. Buying your own country's goods isn't a bad start.

I remember when I was at school, and it wasn't all that long ago, much time in geography lessons would be spent learning about the manufacturing base of the British Isles. In Lancashire they had the cotton industry, in the coalfields of the Midlands and North they had steel, while in the mountains that divided these areas you had hydro-electric power, sheep, and mineral mines. I'd give away a whole shelf-load of silly pencil-top gonks to sit in such a geography lesson now (just how many different breeds of sheep are there)?

The House of Lords, by far the most coherent chamber as, despite the participants' ages, they are not honour-bound by political allegiance, stated Britain should look to the new technologies as herein lies the next revolution. Couldn't agree more. And so it would seem to be with the public who went out and bought the Sinclair computers despite much in the press about the unreliability of the machines. Much was made of the lack of sound when everyone knew full well that Sinclair's competitors were caught in the no man's land between beeps and buzzes and the full-bodied melodies of a synthesizer. The truth is the sound on these machines grinds after a short time and the demure bleeps of the Spectrum come as a blessed relief.

I read a local paper recently that put forward the reasons behind buying a microcomputer this Christmas. Quite rightly some of the points they raised included amount of software available, price, and whether little Johnny's friends had the micro. It was curious to find the article extolling the BBC computer over the Spectrum. Let me put this as bluntly as I can. The Spectrum microcomputer is a brilliant device both for learning BASIC etc. and for playing games. I own, or have owned, an Atari, a BBC, an Amstrad, and a C64 and all have some major flaw in design, screen layout, add-on capability or

available memory. What is more, the Spectrum was quite merrily computing away long before the others and so has a quantity and breadth (and availability) of software which leaves the others looking nice in the shops.

As for the QL, yes, the microdrives are unreliable, but we live in times where rapidly-developing technology must be offered at an affordable price, and who would begrudge Clive Sinclair when NASA's budgetary constraints had DIY men throughout the world laughing at some tiles which just wouldn't stick.

And it's no use laughing at the C5 while you pollute the atmosphere in your heap of rusting junk whose technology has changed little since its inception. Arthur C Clarke's (and Daddy's) visions of the future, with the printless world, gigantic space colonies, and the kind of mentality that goes with them, may not ever be quite as anticipated, but there is no need for the cynical technofear as displayed in such media mishmashes as *Tomorrow's World* and *Micro Live*. I suggest the first person who had the ludicrous idea of making technology more palatable in this dreadful manner go and write some techno-fear soap operas and leave the task to someone who is prepared to deal with the facts sensibly and reliably. Admittedly, this would remove any chance of political tampering with the facts, but it is a political reality that the new technologies are coming whether we like it or not. Any nation which actually gets to grips with the technology as opposed to the 'subject for discussion' will reap the undoubted rewards.

1985 was notable for the demise of MSX. MSX was a good idea, making a range of machines between which software was fully compatible. The only problem was, there was already a great deal of compatibility between the Spectrums that everyone was buying in droves. The Spectrum has, and will, last longer than either myself or other commentators thought possible.

This year was notable for the escalation in the tie-in battles with major film titles such as *Gremlins*, *Rambo*, *View to a Kill* and *Never Ending Story* gracing the computer store shelves. The advantage to these deals is the recognition a product gets through the public's familiarity with the concept and storyline. TV tie ins can be even more effective in terms of public awareness of the product. These thoughts lead me on to an area which, to me, has really made itself plain over the last year.

The perceivable age of the home games playing market seems to have dropped steadily down through the teens to the point where anything beyond a platform game is seriously questioned in terms of its likely viability in the market place. There's nothing inherently wrong or worrying about the spectre of a carry-cot Spectrum attachment with that all important fire button within reach of tiny hands, it's just that one shudders to think what popular music there would be right now if it wasn't for the older listeners pulling the whole standard of music up by its bootstraps. It is my guess that if the reading age of Sounds and NME fell by a few years those who, on paper, would benefit by such a fall would lose interest in the whole ostensibly uplifting exercise.

And all this brings me back to adventuring (believe it or not). The demise of the intelligent, text-only, adventure epitomised by Level 9's *Snowball*, and mourned in *SIGNPOST*, is a part of this lowering of the intellectually exacting nature of computer games. In a nutshell, programs have become simpler. Utilities such as the *Quill* and *Illustrator* will continue to figure prominently in adventuring, and it doesn't take much of a jump to realise that they will be more important in all games' design in the near future. In America the computer games market is older because the machines Americans own are larger and more expensive, and more useful to the whole household. In Britain home computers are toys. It remains to be seen whether the market is going for the gutter or searching for the stars.



SWORDS AND SORCERY

Producer: PSS

Price: £9.95

Language: machine code

Author: Mike Simpson

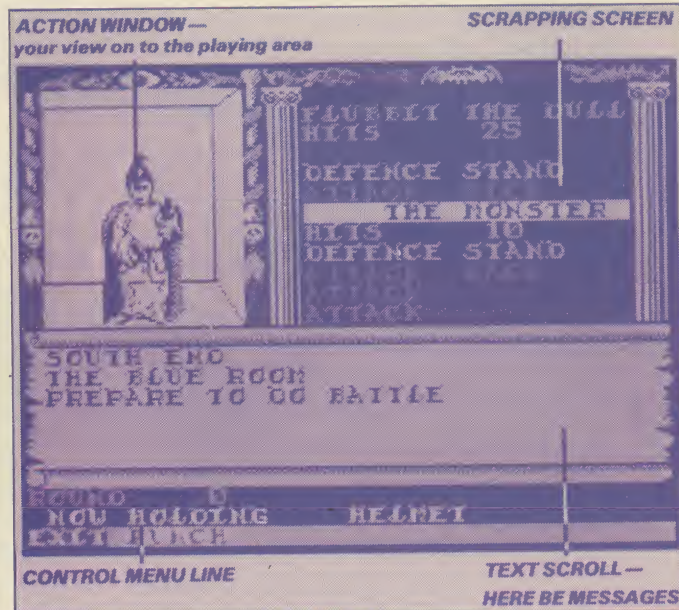
Some games are big because of large budgets, others because of large and prominent advertising. And some games are big because they attempt something new, and advance the limits of programming just that bit further. *Swords and Sorcery* is one of the games which has earned a reputation solely on the length of time and concerted effort expended on its completion. As with all ambitious programming efforts the date of completion was put back time and time again — but it hasn't surfaced at such a bad time, being in sight of Christmas and those long winter evenings.

Recently, complicated games haven't been given the reception which was their due in the early days of home computing. I think the reasons behind this are twofold. The first reason is the

way in which the home computer games market is becoming both broader and shallower as if the bubbling cauldron of energy and ideas that was this industry had run its course and now lines up with all the other consumables, stuck in the mud of a silted up estuary. Reason two is the average age of games players which has fallen right down through the teens to the point where anything greater than keeping a fire button depressed for five minutes is thought educationally over-demanding. Now you might think, wouldn't all this be better placed in an editorial (and indeed, since I haven't written this month's, these very words could reappear there yet) and not in a review. Well, if this game does not recoup in chart success all the man hours put into it this paragraph may seem just that bit more interesting.

It would seem every major new project requires a buzz word, as if the computer games industry were out to create a subculture language all of its own. In this case *S & S* presents us with MIDAS where, for the very first time, the computer plays the part of your eyes much as the camera plays the part of that geezer's eyes when he crashes that medics party in St. Elmo's Fire. You know the bit, he's dripping wet and she turns round and she ends up telling him how she just puts out the rubbish and things like everyone else. (I hope the Ed doesn't delete this stuff — this is very inventive writing). On the left side of the screen your view of the catacombs is smoothly animated and does indeed give the impression of a cartoon film. As you approach a chest or a bottle you seem to bounce up and down — just as you do when walking on a street — and you can even jump: the room and objects before you fall and rise again as you land on your feet.

The other characters and creatures you meet in the dungeon are also smoothly animated as they wander the corridors. There are treasure rooms to



plunder, caverns to explore and pits to avoid. Failing to successfully negotiate a pit results in the walls of the pit whizzing past you as you plummet to an early exit. The goal that transcends all others is the search for the four parts of the priceless Armour of Zob, a Master Armourer who fashioned the masterpiece in distant antiquity.

On the right side of the screen is either displayed an aerial view of the quadrant you are in or a rather intimidatingly complicated set of labels and figures which flash up once combat has begun. At the bottom of the screen is a revolving sequence of options. Keys 0 and 8 revolve the options while key 9 chooses that option at the far left end of this strip. Flashing arrows indicate where movement is possible and I'll doubt whether a single person could play this game and not come away with the impression that this arrangement is both awkward and clumsily designed. The truth is it doesn't quite work.

In battle, momentary panic can set in followed quickly by

frustration as the player struggles to get the right set of options flowing one after the other. But even when in a comparatively calm situation the clumsiness of this system is all too apparent. Take this attempt to get an object from a chest where OPEN CHEST, GET SANDWICH, EAT SANDWICH would suffice in, say, *The Hobbit*. EXIT, ACT, SMASH, CHEST, HANDLE, TAKE OUT, CHEST, SANDWICH, HANDLE, ACT, EAT does the job in *S & S* here, which is not only longer but, remember, involves all that revolving option palaver at the bottom of the screen.

Loading up the game you are presented with three options: Default Game which sees you take on the role of Flubbit the Dull, a ready-made character with an uninspiring name, Load Game which restores a previously saved character, and New Character where you select a name and training scheme for your character. This training scheme allows you 14 days to train with 12 masters and gives your character the opportunity to improve its sword skills, or

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perhaps its thievish abilities, eg picking locks. Forty dragons teeth is your budget for armoury.

As with all complex subjects S & S has an authoritative and full account of the world you will enter. To summarise all that is said therein would be a difficult task indeed. Perhaps a good way of showing what to expect is to give three examples (which will probably remind many of D&D guide books):

SPELL — FIREBOLT: *a small blast of magical fire which will burn some of your foes. It does about the same as a hefty sword blow (from an inexperienced swordsman), range — line of sight.*

SPELL — UN-POISON: *this spell will neutralise any poisonous substance imbibed, ingested or injected into the user, preventing it from doing any more damage (poison damage is spread over a period of time), range — personal.*

MONSTER — MAGES: *there are two sorts of mages, the lesser and greater varieties. They are visually identical and the greater is recognised by the fact that he uses more powerful spells. Mages disdain hand-to-hand combat and will always attempt to keep their distance and cast spells. Due to the fact that they*

do not wear armour or carry much equipment they also move quite quickly.

You will notice the period of time aspect to poison noted in the UN-POISON spell and this is a very sophisticated concept in this game. For this reason a close eye should be kept on your character's strength and spell power whilst handling mysterious objects. Some items you pick up will instil within you tremendous powers and the ability to deal with all but the deadliest of foes. On the darker side some arefacts will parasitize your strength and negate your efforts, draining the very life blood from your hapless character.

Swords and Sorcery is a super attempt to bring the sheer depth of D&D to the computer screen. Rare for this type of game are the impressive graphics and brilliant animation showing in the best way possible the excitement of exploring monster-filled dungeons. Considering the amount of time spent programming it, and the high quality of the graphics, it is hard to imagine many who wouldn't be prepared to invest the time in getting to know how to play the game in order to delve deeper, cultivate their character and reap the rich rewards.

COMMENTS

Difficulty: playing is hard to begin with
Graphics: very good
Presentation: super
Input facility: revolving options from larger menu
General rating: ambitious and outstanding addition to the games playing world

Atmosphere	8
Vocabulary	9
Logic	8
Addictive quality	9
Overall	9

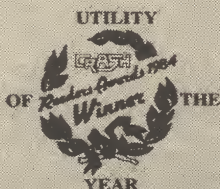
SEAS OF BLOOD

Producer: Fighting Fantasy
Price: £9.95
Language: machine code
Authors: Mike Woodroffe & Brian Howarth

Seas of Blood is a game fashioned by big names from both the Fantasy Game and Adventure worlds. From the role-playing, Fighting Fantasy book corner come Steve Jackson and Ian Livingstone, who wrote the book of the same name. From the Adventure corner we have Mike Woodroffe and Brian Howarth who are the names behind Adventure International's impressive *Robin of Sherwood*. Put them together and you could get something which might knock the spots off the opposition, or you might end up with something just that bit smaller than either of these two giants. Read on to find out which is true...

Seas of Blood has been specifically written to encompass both the playability of the fighting fantasy combat system and the problem solving of the adventure world. The game features over 300 locations, all with graphics, together with an animated dice sequence that represents the fighting fantasy combat system.

The city of Tak, at the northern end of the Inland Sea, is the greatest den of thieves, pirates and cut-throats the civilised world has ever seen. In this city of scum there are many pirates infamous for their ruthless



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greed, daring raids and countless skirmishes with death. One of these scoundrels is you, the captain of the pirate vessel Banshee. Together with your band of seasoned cut-throats you search for treasure around the Inland Sea which is the vehicle of much of your exploration. To be a successful pirate you should locate and retrieve 20 treasures and take them to the top of the mountain on Nippur at the southern end of the Inland Sea. Movement around this sea is achieved with the use of commands like SAIL NORTH. Leaving and boarding the ship is achieved with SWIM while at sea, with GO ASHORE when adjacent to land, and GO BOAT when by another vessel. BOARD BENSHEE takes you back onto your own vessel.

This is one of those adventures where you could either say 'I've seen all this before' or 'this really has got a number of new features'. The curious thing is neither of these statements is incorrect it's just that the overriding feeling is more in line with the 'I've seen it all before' argument. Yes folks this is yet another Brian Howarth implementation of a big idea. The reason I take this tone is not because it is necessarily a bad thing when a programmer takes on many such projects. No, not at all, it is only a bad thing when that programmer keeps churning out the same string of programming faults so painstakingly picked over in this very column time and time again. When a programmer stands still its bad news in an industry which never will. A glaring white background is bad enough (especially on a colour set which often needs resetting just to play the one inconsiderate game — after all, how often do TV broadcasts choose white as a background colour: send your answers to Adventure International) but when it is constantly removed and flashed up again as in this game it becomes irritating in the extreme.

Whenever something is pick-

ed up or dropped, or the ship you captain is moved along, the whole screen is taken away and placed back up again. It is particularly strange when you choose to sail in a direction which is not permissible and the screen does its ridiculous flash routine.

On the new features front the game can offer one or two surprises. The best of these is the combat routine. This ties in with a status page that can be called up along with the inventory by pressing the letter I. On this page are you and your crew's vital statistics: Log, Provisions, Skill, Stamina, Crew Strike and Crew Strength. The number of days you have spent on the voyage are recorded under Log while Provisions generally decrease accordingly as one provision can maintain a ship for one day at sea. Provisions are not used on shore and food can be found under various guises as you go on your pirating way.

Skill is your personal skill as a fighter and you will probably want to compare it to that of your opponent in any hand-to-hand combat. Its value is important as during combat its figure is added to the random figure which is the sum of the values shown on the two faces of dice which spin and stop before you. Your opponent's dice are stopped from spinning by the computer, while your dice spin until you chance your arm. The spin of the dice is shown by very quickly changing figures as well as dice faces. These figures are in random sequences.

Stamina will generally decrease as you are wounded during a battle but hopefully not as quickly as your opponent's who is seen off once his Stamina reaches zero. Crew Strike and Crew Strength are of greatest interest during ship-to-ship conflict where Strike represents the attacking power of your crew while aboard the Banshee, and Crew Strength shows how the shipmates are holding up to the onslaught of the battle.

Seas of Blood is a very entertaining game but will not auto-

matically attract those adventurers, both experienced and novice, who delighted in the sheer slickness of *Robin of Sherwood*. One obvious reason might be the lack of the kind of stunning graphics found in *Touchstones of Rhiannon* as the skills of the artist Teoman Irmak were not available for this game. Another might be the less than friendly vocabulary, or the lack of the GET EVERYTHING and AGAIN commands which bring a touch of class to adventure games (the A for AGAIN command would have been very useful when sailing repeatedly in the same direction).

The problem is, Adventure International have set themselves very high standards to maintain and we reviewers are easily disgruntled. The plusses, like the combat system, are welcome additions — it's just the minuses begin to jar a little in this one.

COMMENTS

Difficulty: difficult to get into but then easier

Graphics: good

Presentation: white glares on colour TV (still)

Input facility: verb/noun

Response: reasonable

General rating: aaaahh, Jim lad!

Atmosphere	8
Vocabulary	6
Logic	7
Addictive quality	7
Overall	7

SHADOW OF THE UNICORN

Producer: Mikro-Gen

Price: £14.95

Language: machine code

Author: Mikro-Gen team

This latest game from Mikro-Gen has a lot to live up to. It has been hailed as the first Mikro-Plus game with an additional 16K memory supplied via a piece of hardware which plugs into the back of the Spectrum. This Mikro-Plus interface has a joystick port and so the game can be played with a joystick. This facility also allows copies to be transferred to tape or micro-drive. Without a joystick the game plays well on a keyboard and on side two of the tape you receive with the game is a head alignment routine to ensure

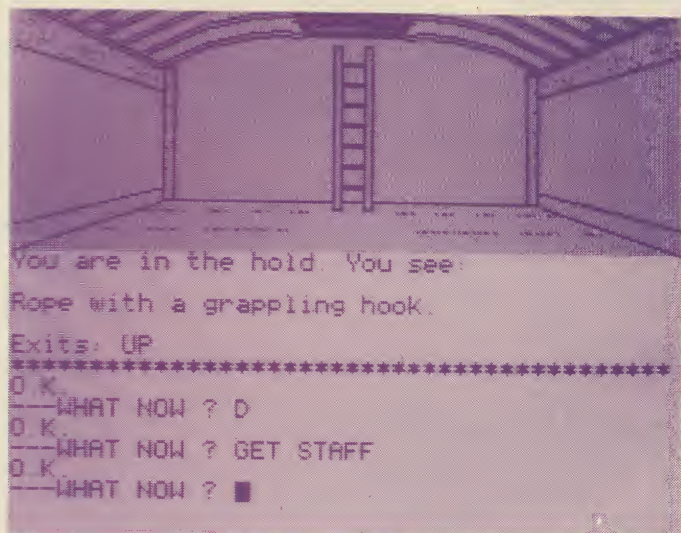
trouble free loading from your tape recorder.

Shadow of the Unicorn is the first piece of software to be actually marketed with a hardware add-on (*Psychapse* and *Bandersnatch* from the old Imagine team never saw the light of day). The surprising thing about the game is its conspicuous lack of the sort of mind-blowing features one might expect from such an innovative breakthrough. The celebrated *Lords of Midnight* is now one and a half years old and it must be a sad reflection on games design when this game is far inferior in terms of basic structure than that first *Midnight* game.

The fundamental flaw in *Unicorn* is the curious state of affairs that has your character looking, say, south when he is travelling west. The character is literally not looking where he is going! Were this not strange enough there is an added complication found when a character is in a town or village. He may be in a settlement but may only know it for sure after looking through all four compass directions. Getting to a village, castle or other distant object isn't as effective as in the true landscaping adventures, as, ignoring the virtually unchanging backdrop of distant mountains, you can only see the terrain of the adjacent square next to you in the viewing direction. You don't feel as if you are approaching them, you literally see them, you turn and move toward them and then that's it, you're on top of them, whether it be a castle or a windmill. Compare this to *Lords of Midnight* where you could aim for distant lakes and towers and you might see the point I'm making. In these games you get the impression that the towers, keeps etc. actually exist whereas here it is only too obvious that they are an artefact of computer memory. When considering some of the finer aspects of this game, these flaws in design may shrink somewhat but only when games such as *Lords of Midnight* and *Runestone* have temporarily slipped the mind.

It is not only in the area of games design where Mikro-Gen have me puzzled. The game is marketed with a (too) large booklet which is fashioned along Tolkien lines but, as in so many books and booklets that accompany adventures, falls somewhat short of the narrative powers of the great master himself. None but the final two chapters has any great relevance to the computer program.

You might think that a game which makes use of a new piece of technology would have a fine instruction booklet. Not a bit of it. This game has only a flimsy sheet of card giving you a very short summary of the story (much too short given the length of the book) and a few instructions concerning the hardware and its implications. I found on



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one occasion some difficulty in finding out exactly how to save a game and ended up losing it, much to my chagrin as I had put in a long session and had progressed well. After the joystick controls (Left — Right for movement, Up to take or drop, Fire to fight, Down to turn view to the right) you get a rather plain list of the characters with 1) Mithulin, King of Oronfal, 2) Avarath, Wizard of the Zim-Faranid, and 3) Holdin, Captain of Falforn up to 10) Lairmath, another Captain of Falforn. Not all of these characters hold equal sway in the stormy lands of Falforn and the royal lands of Oronfal. The three main characters are Mithulin the king of the royal lands, Rolquin queen of the storm lands and Avarath the wizard who is distinguished by his ability to fireball the irritating monkey-like figure who attacks characters willy-nilly throughout the entire course of the game (later research reveals this persistent assailant to be a nalesh).

Actually, while I'm about it, how about this tip for avoiding the pain in the neck nalesh. Because characters are safe unless you select to move them (there is no real-time element or any urgency with the other characters), and because the nalesh always attacks from the side of the screen furthest from you, avoid the beast by quickly flicking between characters as you move your chosen character across the screen. After only two or three flicks your character ends up being attacked by the nalesh from the wrong side of the screen leaving the character to peacefully leave the screen in the direction chosen and be happily on his or her way.

A convenient way to take you through the logistics of this game is to look at the screen which retains the same format throughout (and should be on this page somewhere unless the powers that be mix up the pictures as with *Warlords/Red Moon*). At the top left is the name of the character you are using at that particular time. Next to this name is the location you are passing through which generally is helpful enough to locate your approximate position on the map supplied with the game (if you are following one of the paths, or you have entered a castle, this position can be verified accurately). Below the name of the character presently playing is the compass whose arrow does not indicate direction of travel but the viewing direction which only becomes the direction of travel if you swing it around to lie left or right on the screen. The yellow and red bars adjacent have variable lengths to represent generally decreasing energy and (thanks to the aforementioned pain in the necks) increasing injury. Decreasing energy is reversed on eating at one of the magical berry bushes which can be puzzlingly sparse when you

really need them, and no doubt there exists some spell to undo the harm of injury. To take no action with either injury or energy can result in a character's death, and losing an important character can see you starting a new game.

The standard of graphics in this game is rather puzzling given its added memory resources and its destiny as a megagame. There are quite a number of heavy-handed colour clashes and one piece of animation has the king doing a sort of constipated breakdance. One thing you can do is hand it to the game for clever music effects; the music is in keeping with the game and is very tuneful indeed.

Shadow of the Unicorn is a very good game by any standards. It is complex, has a storyline which is worth the considerable effort getting to know and yet is instantly and enjoyably playable. The tone of this review has been F flat for one very significant reason; the game is costly due to the Mikro-Plus add-on necessary for the additional 16K the game offers. What is a little puzzling (even worrying) is just where this extra memory has been allocated, as the improvements such as additions might bring are not immediately apparent.

COMMENTS

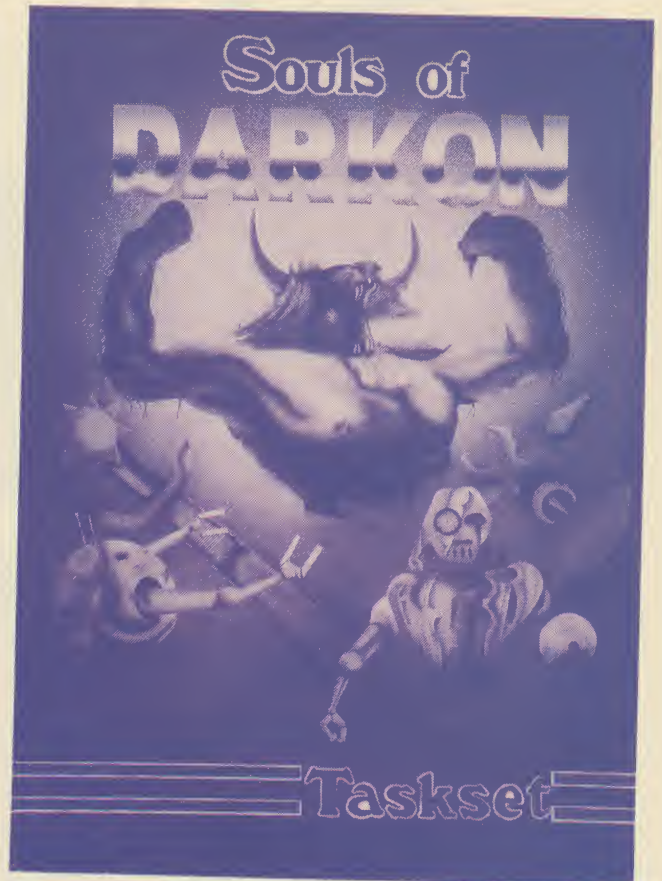
Difficulty: the most difficult thing is reading the book
Graphics: good, but not as might have been expected
Presentation: simple and easy to get to terms with
Input facility: perhaps could have done with some textual information
General rating: good

Atmosphere	7
Graphics	7
Logic	6
Addictive Quality	7
Overall Value	7

SOULS OF DARKON

Producer: Taskset
Price: £7.95
Language: machine code
Author: the Taskset Team

Beyond the sun of Crenal lies the planet Megron. Its people were of genius IQ; they practised both the art of sorcery and that of science. However their quest for knowledge became a dangerous



obsession and they ventured into a realm of evil where they released the devastating power of Darkon. The people live in terror. Will they be the next to suffer the curse of Darkon? Only you and your faithful robotic friend, Komputa can free the people from this tyranny. But can you succeed where so many have failed?

Souls of Darkon is already in the shops on the Amstrad as I write, so whether or not you'll be able to buy the game in the high street is probably academic. The reasons for this game's acceptance by the shops is quite obvious as soon as you load up. Taskset have successfully met their task of taking the adventure and tidying it up. Gone are the messy lists of endlessly scrolling text and graphics. In their place we have here a neatly boxed-off picture set on the lower left hand side of the screen. Above this is the location description which does not budge an inch throughout — quite an advantage over other adventures where you are constantly wondering where you are. Framed by the static picture and location description is a scrolling area carrying your input and the program's responses. The text has been clearly and atmospherically designed, in fact, what with the stylised, cartoon-like graphics, the whole program reveals a novel appearance.

One minor irritation is Taskset's inability to get to grips with the Spectrum's input routine (the Amstrad version works just

fine). Even when you are carefully typing the auto-repeat effect can catch you out with words like L O O O K ending up on your scrolling list of past inputs (rather embarrassingly, the input recorded is the exact word you entered and not the word from the program's own word store).

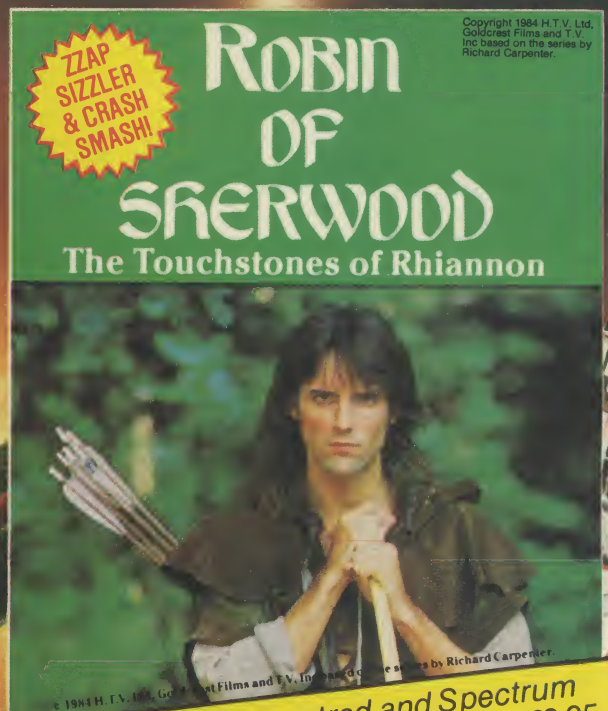
Another gripe is an error which is common to many adventure instructions (*Sordenon's Shadow* did the very same thing last month). The error I refer to is the habit of listing a so-called example of the vocabulary going beyond the simple verb/noun couplings only to find that the program's input routine can't handle such a long sentence, for example, in this case, ATTACK THE WOODMAN WITH THE LUNAR AXE is too long to be accepted. A curious side effect of allowing the location description to remain on screen is the need for a LOOK command which tells you what you can see, eg a bottle, a mushroom, along with the exits. The reason for this, presumably, is the restriction of space on the location description. It may have been better to have made the adventurer work for his/her information with a more intelligent LOOK/EXAMINE command.

Programming the DELETE key to act without the need of the CAPS SHIFT is a nice touch as is the list of words in the vocabulary which comes up onto the screen and stays there while you try and match up some of the words from it.

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Souls of Darkon is a very well presented adventure and a welcome change at a time when just about every mainstream adventure is *Quilled*. The cartoon-style graphics are very effective and suit the game well.

COMMENTS

Difficulty: easy to start, then the usual brick wall
Graphics: one colour — green — but attractive
Input facility: a little beyond verb/noun
Response: fast
General rating: some good features

Atmosphere	7
Vocabulary	7
Logic	7
Addictive Quality	6
Overall	7

THE QUEST FOR THE HOLY GRAIL

Producer: Mastertronic
Price: £1.99
Language: BASIC & machine code
Author: Chris Newcombe

The Quest for the Holy Grail may seem a familiar title. For one thing, it was the name of a Monty Python film which formed for itself a cult following. Normally thrifty and reserved persons would lose all poise and decorum and rush out to the nearest bookshop and buy the script to the film thereby causing the sort of arguments which raged throughout the land; who would play the geezer (John Cleese in the film) who says in a French accent (now thought essential in all TV comedies) 'I empty my nose in your general direction' or something to that effect. Now, I don't wish to be seen as a kill-joy, but this game leans rather heavily on the film and will now presumably sell more copies than when marketed by Dream Software (under which company's banner it was reviewed in the May 84 CRASH). So one must wonder at the legal implications after many a harmless Star Trek derivative was forced from the market by overbearing directives sent out by Paramount Pictures.

In a nutshell this game is a *Hobbit* look-alike. The differences lie in its speed (it is written in BASIC and seems unnecessarily slow by today's standards), its simpler graphics, and its lack of real time. As in *The Hobbit* it often takes a key depression to scroll up the location description before you can start to input. You begin in a blacksmith's forge where you are at once confronted with the humour which gives the game its distinctive flavour and cult following. 'You see — The nuclear powered lamp. A CND picket. The yellow/green spotted key. The CND picket is sitting next to the lamp chanting, 'We shall, we shall not be moved!!!' When you take the nuclear powered lamp the CND picket walks off in a huff.

Having said that this game loses out technically to *The Hobbit* it does in fact have many features to commend it. The use of the full gamut of Spectrum colours is noteworthy, both in pictures and borders and within the text. The problems, so often featured in adventure helplines, are really entertaining and funny, and, as is always the case with problems pitched at just the right level of difficulty, they give a real buzz when finally solved.

The Quest for the Holy Grail is an old program first marketed by Dream Software. It had a cult following in its old format due to its association with a very funny film and its own highly unusual and entertaining problems. What the game lacks in technical competence it compensates with super text and funny goings-on. Well worth the asking price.

COMMENTS

Difficulty: easy
Graphics: average
Presentation: good
Input facility: basically verb/noun
Response: slow
General rating: good value

Atmosphere	7
Vocabulary	7
Logic	7
Addictive quality	7
Overall	7



LUDOIDS

Producer: BugByte
Price: £2.95
Language: BASIC & machine code
Author: Barry Thorne and James Dann

Ludoids is a quadruplex adventure which means it comes in four parts. These parts are loaded separately but are linked by the codewords left, in the first part for example, by a graffiti-inspired agent who presumably has passed this way before you. In the first part you are disguised



as a spacetrucker who must search a robot space-station, in the second you trans-mat down to the planet Glacia which is rather cold and has igloos and things, in the third you take a kind of Westworld holiday on the planet Vacatia, and in the fourth a submarine provides you with one or two problems.

As you might guess from the above *Ludoids* is a curious adventure. Each part has full screen pictures at a number of locations, many of which are rather evocative and pleasing. A few of these pictures have simple animation such as clouds rolling by, a burger sliding out of a food dispenser on a tray and beacons flashing. The character set has been tastefully redefined being both futuristic and readable. It's a shame the whole lot, pictures and text scrolls off, but on the whole the game is attractively presented. What is remarkable is the short length of each part. This may be partly due to the machine code introduction sequences which greet each mini-adventure, which are delightful in themselves, but surely cannot explain the brevity of the adventures which follow.

Your overall mission is to find the Ludoids and destroy their trans-mat jammers with the wrist detector given to you at the beginning. Many of the pictures, like that of a Sinclair C5 seen early on, are very impressive but the plot that links them together is flat-footed and it wouldn't take

much from any adventurer to complete the whole four parts within one afternoon. It's not as if the codewords you need to carry on from one part to another create much of a challenge. At the beginning of part two the following gem comes up onto the screen: 'If you found the key behind the desk you will have been able to find the code-word that you need'. The code-word for part three, hidden within part two, is somewhat obvious as it is highlighted by an arrow leading from the word HINT. Since this adventure clearly won't take much solving by anyone, I suppose you could say it's the gourmet equivalent of boil-in-the-bag for the adventurer who is too busy to play

adventures.

One of the most interesting parts of the game, and certainly the most difficult, is the gun duel in the western world of Vacatia. To draw your gun and then fire it with a different key is very difficult in the split second allowed you by your opponent. Your first few efforts will no doubt see you biting the dust.

Ludoids is a curious piece of software as it comes in four parts, each of which is very short and very easy. There are a number of machine code routines to bring the adventure alive and there are many worthy pictures. It is hard to see what attraction the game would offer to hardened adventurers but it may offer some entertainment for the adventure dabbler or the young at heart.

COMMENTS

Difficulty: easy
Graphics: rather good
Presentation: good
Input facility: a little beyond verb/noun
Response: fast
General rating: unusual

Atmosphere	7
Vocabulary	6
Logic	6
Addictive quality	7
Overall	6

Let's begin this month's **SIGNSTUMPS** with the kind of help offered by that curious but much appreciated band of adventurers who delight in a bit of philanthropy — who like helping stranded adventurers on their merry way (or in other words prevent damage to computer, cat, teamug out of sheer frustration, not to mention saving the odd marriage).

KD Stobley **very kindly offers help for a query set in Issue 21. He guides us all with the following**

'I read *Dazed and Confused* by David Salter: well let's see if we can give him a hand with *EI Dorado* from Atlantis. At the beginning you come across an unlit torch stave, some flint and some pigmies. Take the torch and flint and USBF SPTBSZ CFBET with pygmies: they will give you a spear. When you get to the deep valley MPPL through DSFFQFST and you will find a cave. Next MJHIU TUBWF using GMJOU and enter cave. Go up and have a good look around. You'll come across a jaguar. UISPX TQFBS at jaguar, then you will find a hemp rope and a cylindrical stone baton with a wooden handle. You take both of these. When you get to the ledge the other side of the cave just past the python called Monty UJF SPQF to saplings and climb down, where you will come across the statue. **I must stop there otherwise the man from Atlantis will have my guts for garters.**

Stephen Browne **from Belfast is another helpful soul and responds to a plea in Issue 21 thus:**

'... about killing the dragon in *Twin Kingdom Valley*. You will need the long wooden TUBGG

which lies behind the TJMWFS EPPS in the desert king's castle. 'Ah! That's all very well', I hear you cry, 'but where do you get the TJMWFS key?' Well, you give the EJBNOE to the forest king and he will give you an amulet. When you have this go to the witch in the dungeon and give her the DSZTUBM CBMM, she will give you the bronze key. Now go to the bronze door in the short passage, open it and a princess will flee out.'

Stephen goes on with the exact solution but I think we'll leave it there and say that you are near to getting the wooden staff needed to do the job.

S Swann **in Mid Glamorgan offers some corrections for (no doubt, my own) faults in the November issue regarding The Fourth Protocol:** 'First of all, you can obtain the files from Blenheim at any time at all. Secondly, in hint no. 11 it is UMEA in Sweden, not UMBA as stated. Now a hint. When you have eliminated most of the people in the three lists, MOD, CABINET and FOREIGN you will be left with the following names: E Havers, T Allen, D Faulkner, R Night, A Sopwith. Forget Havers and Night, they are totally harmless. With the right amount of investigation you will eliminate Sopwith and Allen. Make sure you do investigate them as it improves your prestige. This leaves us with Faulkner. Watch him and his eating habits, he's your traitor.'

Let's kick off my help bit with an easy one. Mark Malone **in Lancs wants to know how to beat that dart throwing gremlin in the first scene from the Adventure International classic. GFUDI the LOJGF from the ESBX in the kitchen and go back up and kill the gremlin. In the same adventure Mark Rose of Herts asks 'I have the flashlight and the camera but I cannot use them'. MJHIU the flashlight and QPTU it in the NBJMCPY. Press CVUPO on the camera to scare the gremlins.**

'Can you please tell me where the last touchstone is in the game *Robin of Sherwood, Touchstones of Rhiannon*?' writes Stuart Clarke **from Cheshire. The gold coins are found in the DIFTU, in TBDLT in Gregory's cart (and in the TUBUVF as stated in a past 'post'). Take the touchstones collected to the TUPOF DJSDMF and drop them and**

the TJMWFS BSSPX. Herne will appear and change the TJMWFS BSSPX into a touchstone.

'In *Tower of Despair* how do you get past the demonkin which come after you when you leave the grounds of the building you start in?' asks Robert Sharpe. **NPVOU horse and ride FBTU.**

Here are quite a few questions on Mikrogen's Witch's Cauldron from Vicky Mahlberg in Bath: 'How do I deal with the fierce dragon guarding the treasure? And how do I open the south door in the room with the signs on the wall? How do I get past the wall of flame without burning to death?' **To kill the dragon you will need help from the MJPO. Answer 'No' to the MJPO'T question and he will allow you to cut his hair with the knife. To open the south door go to the room with the TLFMFUPO. Here take a CPOF to make a skeleton key. Put out the GJSF with NBHJD EVTU.**

Kenneth Fraser **has a problem with Eye of Bain, where he's got the jar of oil, the ruby and the shiny cross but can't light the wood. PJM MFWFS, pull MFWFS by coffin. To pass shapeless beast carry SVCZ and say 'GJSF'. On the same game HJ Maton writes 1 have been playing this game for months but as yet I have only been able to visit the first 22 locations. So far I have the shovel, bucket, pole, dagger, honey and whipping post. . . . the nasty nomad keeps killing me'. To kill desert nomad, UISPX EBHHS then examine slaves. Give IPOFZ to bear. In the top of the tower enter with UJF WJOF. You also have a query with Golden Apple and thanks to J Duncan I can answer it. The parrot says 'To be or not to be, that is the answer.' At the computer in the computer room UZQF KC. The screen lights up and you get some jewelry.**

Gavin Burr **of Warwick asks 'How do you get past the customs official at the airport in Urban Upstart?' Give GJWFS and official QBQFST to the officer.**

Stephen Greenslade **in West Glamorgan needs some help with Planet of Death which was Adventure A in the famous early Artic series. 'I've got the mirror and I've also got the key, but can you tell me how do you use the computer, the key and the mirror?' Use LFZ when in the large IBOHBS to open the locked door to the lift control room. Use the mirror to destroy the GPSDFGJF ME, then you can EBODF through it. To use computer UZQF IFMQ at keyboard.**

Jenny Fallover **in Herts says 'In Mountains of Ket the ogre always kills me. What do I need to be able to play dice?' Before QMBZ EJDF with ogre save game on tape and re-load if lose. You'll find the answers to your other queries in previous SIGNPOSTS.**

ENCRYPTION CORNER

It's easy to speak Brewster!

ENGLISH: Z ABCDEFGHIJKL
BREWSTER: ABCDEFGHIJKL M

ENGLISH: M NOPQRSTUVWXYZ
BREWSTER: NOPQRSTUVWXYZ

BEYOND SLIP BEHIND

Dear Derek
Having finished *Sorderon's Shadow* before you even reviewed it, in fact even before you acknowledged its existence in the November issue of CRASH, we feel that we deserve some recognition.

The game is good and enjoyable to play, with the usual high quality graphics from Beyond and the advantage of text. Most of the problems are straightforward, being complicated only by the immense distances between consecutive tasks and a very finicky command requirement in some instances — despite the claimed 750 words vocabulary.

On the negative side there appears to be a lot of useless items lying around that are no use at all and often cannot be taken or used. There are also several locations marked on the map that don't exist, these take the form of pits and windmills (windmills of your mind perhaps). Unfortunately huts and igloos are graphically identical as are castles and towers. Character interaction also has its disadvantages; they invariably won't do what you want and when they do it is a painstaking task to get them anywhere, as you have to direct both yourself and them at each go. Occasionally whole groups of them follow you which reduces the game to an absurd crawl.

Your energy level is controlled mainly by resting at night (which causes the moon to scoot across the screen — a feature that kept us amused throughout) and not by eating as they say. There are loads of characters, many of which don't move and others of which are pointless. The cryptic clues you receive as the game unfolds are often parodies of the outline of tasks set out in the booklet. However, some are more taxing.

The game is generally slow, but some arcade type skills are needed to begin with, to follow the guide, and at the end to catch Sorderon as he tries to escape. The SAVE facility is as

useful as ever but takes almost as long as the game takes to load and requires verification which gnaws at the patience a bit. The final message once you've defeated Sorderon is good, but unfortunately it moves too fast to read completely except the last part which is: 'We praise you slayer of the evil reign, Sorderon's death and Watchers bane, Now good will rule for ever more, In this land of Elindor'. Game Play.

As soon as the game starts, follow Morrin north to the cave in Balinor. After he speaks 'Elin Balor', enter ELIN BALOR directly into the keyboard (all magic words should be entered without verb or quotes). Whenever you find a gold coin take it. Greet Lonar, go east and kill Krillan. Return to the village of Balinor and note the message Srom Kasoba. Leave village and take Urn of Perception. Travel south and take Eternal Flame. Go west to the Ring of Supral. Drop urn at midnight. Take the Eye of Togar and travel west to Lord Supral's Tower. Take Horseshoe of Zephyr. Return to village of Balinor and offer horseshoe to Tannor. He will take you to the hut of Nolidor. Take prism. Travel to the wells at Bagul. Stand at the well containing the shiny object. Use prism. Prince Hydral will appear and give you the Phial of Healing. Go to the lake in Kirrin and stand at the lake containing the shiny object. Use prism. Amican will appear and offer you the Bow of Borak. Garry Bishop and Pete White, Exeter.

This is only half of this intrepid pair's solution... I may well publish the rest next month. This will no doubt lead to an outcry of 'stop giving the whole game away' but I think Sorderon's Shadow is only a filler for the gap in the Midnight Trilogy and this is how it will be regarded in this column.

DB

D&D AND SWORDS AND SORCERY

Dear Derek
Have you noticed recently how the line 'and darkness descended upon the land' seems to crop up with monotonous regularity in software intros, eg *Nightshade*, *Runes of Zendos* and probably plenty more.

The reason I mention this obscure fact is to illustrate how boring and repetitive scenarios are becoming. This is surprising when you consider the wealth of material available, eg science fiction & fantasy novels, films, plays and so on that games designers can choose from.

Another thing that has disappointed me is the scarcity of real (graphically) dungeon &

dragon type adventures. When I packed away my *Dungeon Master* and *Players Handbooks* I was under the impression that superbly graphical ghouls, trolls, and the like would be leaping out unexpectedly on my brave adventurer. However, as you know, these type of games have not occurred, which is very disappointing to thousands of people like myself. Not all software houses are to blame — a few have made very good attempts to introduce these types of games: *Mizar with Out of the Shadows*, *Beyond with the Midnight Trilogy* and recently, *The Edge with Fairlight*.

If other readers of CRASH were to express their views on this subject I believe you will find they generally agree with my conclusions, which may therefore steer adventure designers in the correct direction.

As Mikrogen have shown, the memory limitations of the Spectrum can be overcome to include all of the ideas put forward. The possibilities of further add on scenarios is limitless.

To close, I would like software houses to seriously look at some of these ideas — and others from readers. The market is ripe for exploitation, so someone come and take it (and get rich at the same time).

R Rex, Sheffield.

Funny you should say these things, I was discussing this very same point only the other day with someone who was asking why dungeons and dragons had not been transferred to the computer. And you know the answer is remarkably simple — D&D is a social game where a few fantasy nuts get together around a table and live out fantasy roles through their characters. Computer games, whether we like it or not, have become a solitary pastime and software houses are not interested in what is seen as a minority market, ie multi-player role games.

As for critising software houses, well, here you're onto a complete loser. It's hard to argue with a software house releasing things like Monty Mole Part Eleven when it is making a great deal of money. Compare this to a rival software house which tries something a little different involving many months of development only to get their fingers burnt. Swords & Sorcery from PSS took an awfully long time to develop compared to a platform game. It was begun during those days when programmers were prepared to offer the public something new and companies were prepared to market new ideas. But will this game recoup at the till all the man hours put into it? Only time will tell.

DB

SWAMPED WITH A THESAURUS

Dear Derek

Why must every new adventure nowadays have a full sentence analyser, independent characters and a text window? Unless these features are very well done they tend to detract from the game as a whole. Take *Sherlock* for example. This claims a vocabulary of 800 words, but if the programmers had spent time entering words which the user may input, instead of ridiculous words such as 'fairly' which no-one would input, the program would seem more real and less stupid. By the way, try typing 'SAY TO ME, TELL ME ABOUT ME' for a laugh.

I think your review of *Adventureland* was a bit harsh. You gave *Hulk* a SMASH but even though the graphics aren't as good, *Adventureland* has far better puzzles and locations. But reviews are only a matter of opinion and so I can't blame you too much for having lousy taste! Why has no-one heard of *Delta 4's Return of the Joystick*. It is a great diversion but I am stuck. If anyone out there has got a copy, how do I get past the locked door in Software Project's office? Help!

Alex Marsh, Billericay, Essex

I think the point you make about sentence analysis is an interesting one, and it's a subject I've written on in the past. Personally, I see nothing wrong with inventing a restricted subset of English for adventures, and see convoluted sentence input as an amusing diversion only. I'd rather think the author who designed the game was the intelligent one as opposed to looking for intelligence from the computer.

As for reviews I may well have lousy taste but it would seem so has just about

everyone else. No, seriously, I write reviews for the people who I think read the reviews. A CRASH Smash denotes a game people will want to buy for whatever reason. I would strongly recommend people to read all of a review and not just the marks, as even a good review will contain detailed criticism including specific unfavourable points.

As for Return of the Joystick, my review copy didn't load and obtaining a replacement copy is one of those things I didn't quite get round to doing. Incidentally, The Never Ending Story isn't reviewed this month for a similar reason. With its special loader it failed to load on a combination of four cassette recorders and three computers so if you have the same problem don't accept the rubbish from the likes of Smiths that it must be OK because it loads in their shop!

DB

CUT-THROAT HOLIDAY

Dear Derek

I bought *Terrormolinos* last week and had finished it on playing the second evening (95%). It is so ridiculously easy — almost just a case of taking photos in the right locations. It's all very well having tremendous graphics but this game has cost me nearly £4 an evening and I, for one, am very disappointed. *Hampstead* had me scratching my head for months, and whereas the humour was rather subtle in that game, *Terrormolinos* is too heavy-handed and crude — but then that's the idea I suppose. Anne Borland, Canvey Island, Essex

Terrormolinos is a very easy adventure right enough — I had a huge mailbag which consisted mostly of full solutions to the holiday romp. If Terrormolinos introduced more people to the dubious delights of adventuring perhaps this might not be such a bad thing (I think!).

DB

S.U.P.E.R.H.E.R.O.E.S

You know how I said how I'd wished I had seen the film when I reviewed *Gremlins*? Well it's the same thing here — I wish I'd seen *Never Ending Story* so I could understand the message Christopher Jenkins of Aberdare, Mid Glamorgan received on completing the computer game from Ocean (explaining why I couldn't find the time to see the film at my local cinema would be my never ending story). Christopher writes "I have completed *Never Ending Story* on November 2nd at 5.31 pm after receiving it in the morning. The message was — The Empress congratulates you on surviving the Nothing and Succeeding in your quest to return Aurym to her, but most of all for making Bastion believe in Fantasia. Now that someone from the real world believes in it Fantasia can be restored. Bastion, Atryu and Falkor set off to begin rebuilding Fantasia".

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THE COMPETITION WHICH REACHES PARTS OF PROGRAMMERS THAT OTHER MAGAZINES DAREN'T PRINT!



STEVE TURNER ANDY BRAYBROOK

Courtesy of Andrew Hewson's Camerawork, we have a picture of two evil programming types to put in a mini Rogues' Gallery on this page. The Art Department, in a fairly typically vicious mood, took a scalpel to the mugshots, snipped them into little tiny pieces and then selected nine segments to stick down across the way. Over there, on that page to my right. Gottem? Good. Now get back to reading this

If you reckon you're super brill when it comes to identifying people from a tiny fragment of ear or a bijou picette of chin, then you're bound to score in this competition. Even if you're not the Hercule Poirot of photofit, you can always steal the family magnifying glass and spend an afternoon poring over the ugly mugshots on this page ... Could prove lucrative.

Thirty lucky winner types will receive a Hewson Spectrum Goodie Bag containing the CRASH SMASHED (*It's that Kidd fellow you know, he insists I use that term — COMP MINION*) DRAGONTORC, LEGEND OF AVALON and TECHNICIAN TED. And just because SOUTHERN BELLE (84%) and ASTRO CLONE (88%) weren't Smashes, doesn't mean you don't want them, now does it? So you could get them too, in the prize package, which is worth a few pennies short of forty quid. You could be the envy of your friends. All you've got to do is decide how the nine little bits of programmer photo reproduced over there match up to the big photos of Steve Turner and Andy Braybrook over here.

The scalpel wielding fiend up in Art who dreamt this little number up has been very careful, you will notice, to avoid including tell-tale bits like moustaches and glasses in the nine segments. So get your thinking caps on, and pencils out.

OFFICIAL PROGRAMMER'S PHOTOFIT ENTRY FORM

(Or "You can't con me, oh scalpel wielding fiend" dept)

On the right is a grid, which corresponds to the layout of the nine little bits of picture printed above. All you've got to do is decide which bit of photo belongs to Steve and mark it with a giant "S" and then mark the bits that belong to Andy with an equally large "A". Complete the name and address bit of the coupon, and whizz it off to HEWSONS BITTY BITS, PO BOX 10, LUDLOW, SHROPSHIRE, SY8 1DB to arrive by 30th January 1986.

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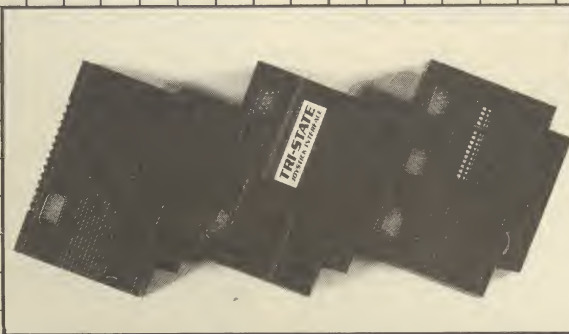
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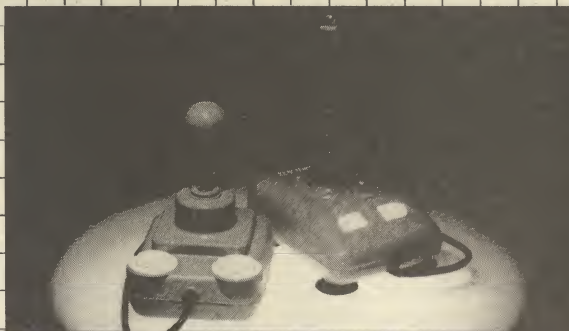
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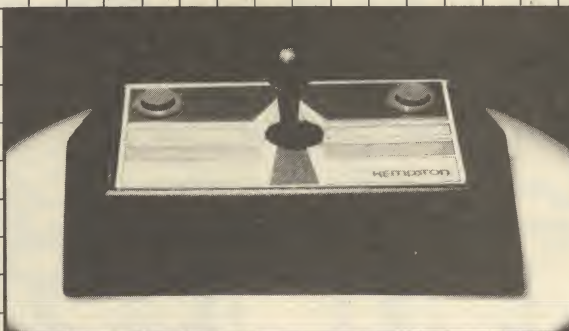
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AND THEN THERE IS LEGLASS O'DONNELL...

Roger Kean (on loan from ZZAP!) pokes about into an enigmatic mystery at Hewson Consultants that involves a drunken reporter, a faithful waggy-tail dog, a beautiful girl and her uncle, a professor of ancient antiquities.

If ever you thought that writing a computer game today is a simple matter of getting out your compiler and squeezing some BASIC into a 42K pint pot of code, then a visit to Hewson Consultants might be salutary. For tucked away inside their (near to) Abingdon offices in Oxfordshire is a programmer by the name of **Mark Goodall** who is deeply engrossed in the mystery of the Sphinx. At least he is at the moment, for *Sphinx* is the working title of a forthcoming Hewson Consultants graphic adventure. By the time of its release — some six months away yet — its name will undoubtedly have changed, the reasons for which, Mark explains:

'It was originally set in Egypt — we started off with this idea of Egypt being a fruitful inspirational area — but is now set in South America partly because Egypt has been done to death as far as mystery is concerned and with this game it's the mystery that we were looking for.'

Another six months may seem like a long time, but Mark has already put hundreds of hours in, and what I was able to see was largely created as a

demo in his purpose built graphics designer/editor. This amazing piece of software underlines Mark's skills as a utilities designer, something he has been doing in-house for Andrew Hewson for a while now. *Sphinx*, however, is his first ever game program.

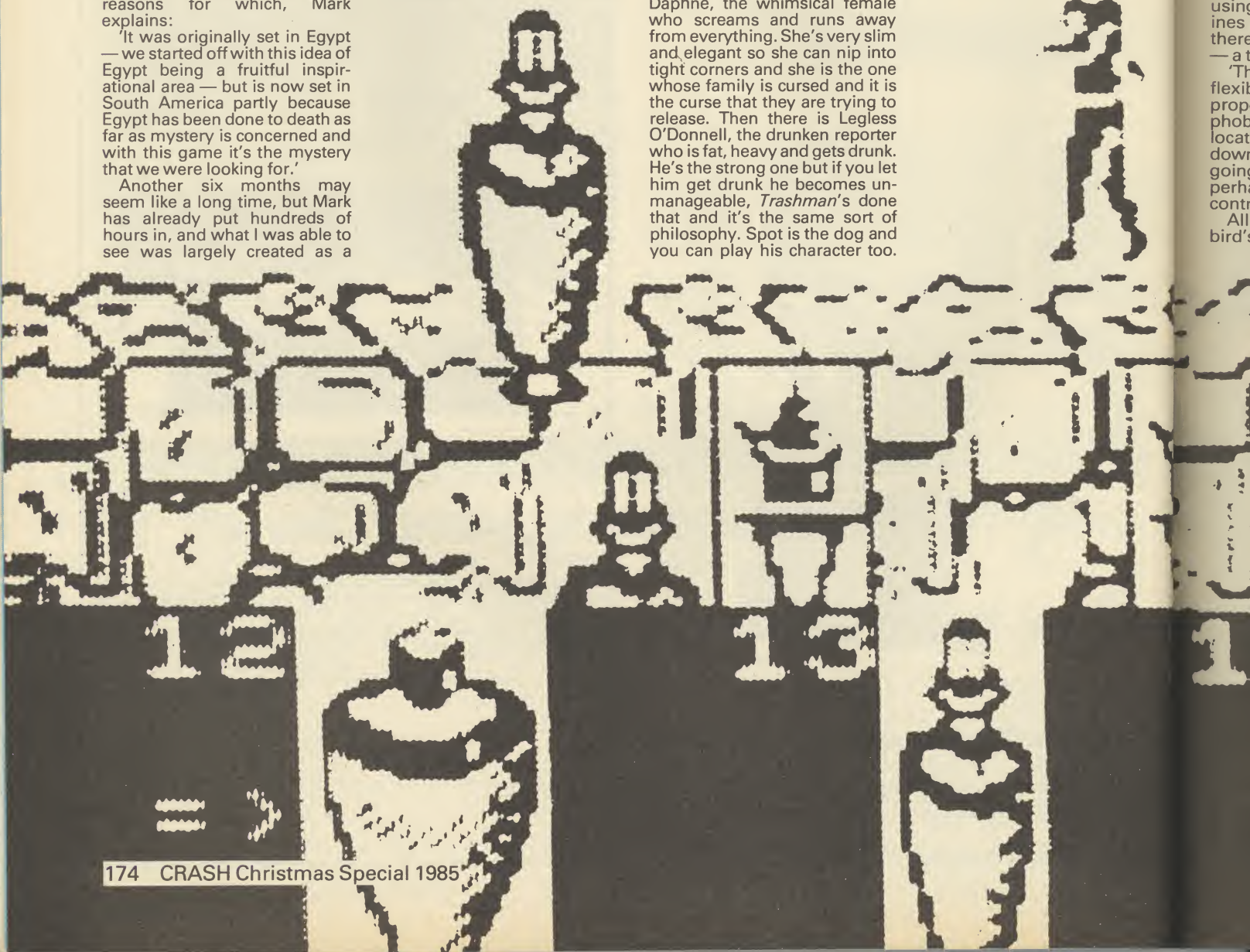
Andrew Hewson: 'This project has been up in the air since Christmas when we kicked around a lot of ideas and gradually we pulled together what we were aiming for. Mark's written a lot of background software, there's been a great deal of talking, so once we get the idea right we'll be able to turn out several games in a series

quite quickly. This is the turning point now, where the actual format is worked out and we've got the utilities worked out and we've got everything worked out except the sound generator. The graphics are important because obviously it's the graphics that have to transfer the impact of the game to the player.

What's happening now is that we're getting the storyline together. We've got somebody working on the script and he has a brief to write 10,000 words on it. He uses phrases like 'literary induction' which we were very impressed with. It's a tremendous script. He also provided us with the idea to have a separate motivation for each of the characters so for instance the reporter is there to make money to finance his drinking! It's a multi-character game, something like *Scooby Do* the cartoon, where four people in some sense work together to finish the job. The individual characters are important. The team consists of Daphne, the whimsical female who screams and runs away from everything. She's very slim and elegant so she can nip into tight corners and she is the one whose family is cursed and it is the curse that they are trying to release. Then there is Legless O'Donnell, the drunken reporter who is fat, heavy and gets drunk. He's the strong one but if you let him get drunk he becomes unmanageable, *Trashman's* done that and it's the same sort of philosophy. Spot is the dog and you can play his character too.

He's the one used for frightening away the nasty bones that come and get you. Finally, there's the archaeologist who is an upright sort who can't do anything useful except that when he sees a hieroglyphic he goes up and reads it.'

Mark Goodall takes up the story as he shows me not only the animated characters and their 3-dimensional environment, but also how the graphics editor works, scrolling pre-designed 'building blocks' through four selection windows, while a cursor allows him to drop them in the top display area wherever he chooses. 'Obviously the characters can only do what comes most natural to them, as with the dog he is terribly good at digging, and by kicking great piles of sand around it's possible to retrieve some important item like a chain or a bone — but he won't be able to do anything with it. If it's a question of using a key in a lock, when that's needed you change control over to another character. Similarly, you can use the reporter to lift heavy objects up, the archaeologist to read inscriptions and so on. It's partly fun, partly mystery and partly just watching the graphics.'

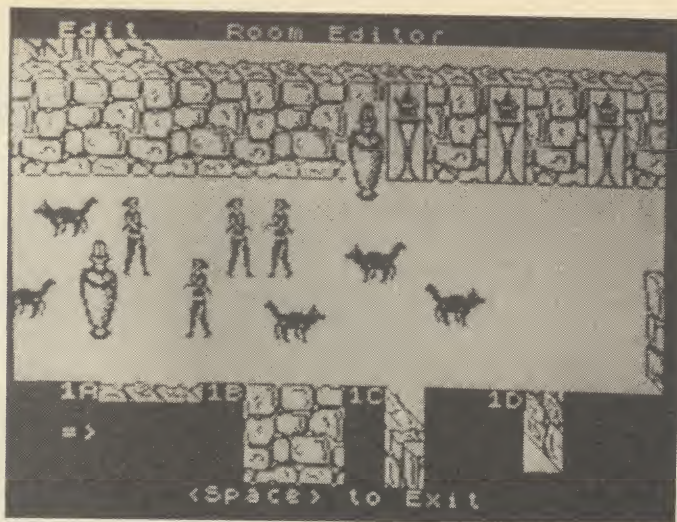


'We've tried to introduce a horror element to the graphics. The way they've turned out they tend to be ultra-realistic so the actual design of the game gives the possibility of horror inherent within the idea of realism. So, if we can make a player believe that they are that character then if we have some horrible thing emerging from a wall or a mummy suddenly shooting out, getting hold of somebody and ripping his arms off and throwing bits of body everywhere, then that is going to make more impact on the player.'

Mark's relish at the thought of this kind of mayhem is mitigated somewhat by his obviously honest face, but Andrew hurries the subject on by telling me that the 'key phrase' to the game is 'littered plain'. Each level in the game (there may be many) can in theory be virtually infinite in size. This would obviously make it unplayable, so Mark is aiming to have spacious open areas, and then claustrophobic spaces. Within the Egyptian/Aztec temple areas where the action will take place, they have literally littered the playing plain with buildings, walls, jars, and other appropriately archaeological artifacts. Among them statues which, since they are constructed along identical lines to the playing characters, can be brought to life in an instant, using the same animation routines as the main characters and therefore eating up no memory — a touch of Mark's 'horror'.

The system we're using is so flexible it's hopeful that we can proportion out these claustrophobic parts and open out some locations and then close them down again, so if you were going down wells or holes we perhaps, could get lots of contrast.'

All of this is seen in 3D from a bird's eye point of view, the



Mark Goodall's graphics designer/editor system, here shows various units of pre-designed wall (lower part of screen), which can be cursor-driven and placed in the scrolling display area at the top, thus allowing the building up of a vast 'littered plain'.



Some of the graphics we may expect to see in the finished game, including the archaeologist's beautiful daughter, Spot the dog and some useful jars that may contain something nasty ...

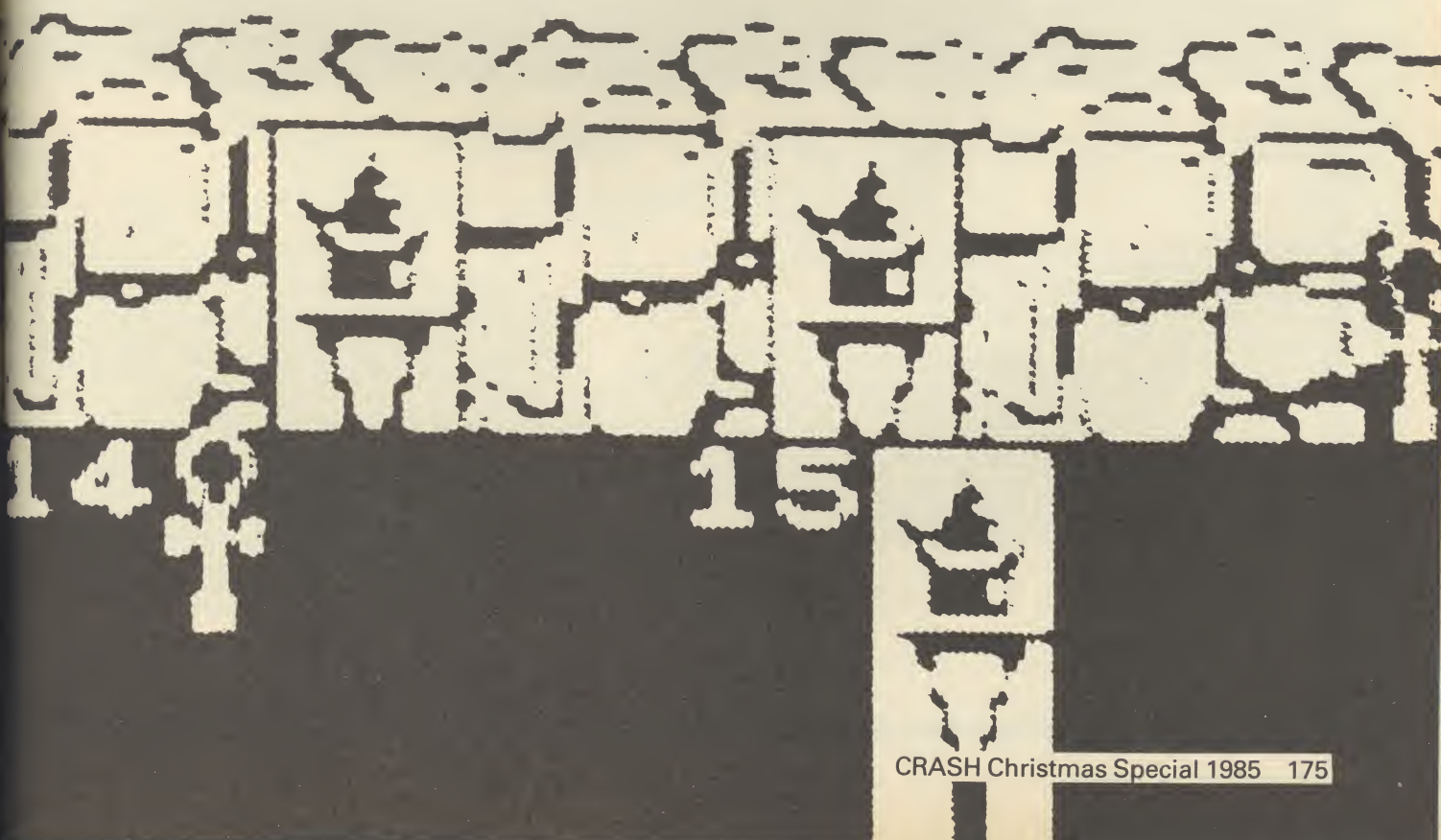
problems of which Mark is presently coping with. 'There's so many ways of approaching the problem. For example here we've got a forty-five degree angle as a perspective angle for these objects. Now it turns out that the implications of that are rather awkward and I'll have to change it to a twenty-two and a half degree angle of perspective and there are so many problems like this which need to be chewed over.'

As the characters move about, they pass behind objects and buildings, so all the moving graphics have to be masked correctly to make it appear as though they really are passing behind something, and there are quite a few moving characters, and on top of that, the screen scrolls about all over the place. 'It's actually quite difficult,' says Mark. 'We've finally solved the problems now but keeping the speed up is very difficult and requires some very peculiar bits of coding which I spent most of last week trying to sort out to make sure it is fast. Also you're moving quite a large area of the screen here as well. The actual area of the screens is very large and with all this it's obviously quite a challenge.'

Writing any computer game with this complexity of graphics and character interaction is a challenge, but as one of the new generation of Hewson programmers, Mark Goodall seems cheerful enough at the daunting prospect, and if, through the strains of work, he ever feels in need of some convivial drinking company, there's always Legless O'Donnell ...

Hewson Consultants' *Sphinx* (or whatever it's finished title will be) should be available round May to June — more detail when we have it.

ROGER (ON LOAN) KEAN





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fill that CRASH Gap.....

3 April 84	● 'Missile Command' games ● Living Guide ● Sinclair Talks ● Code Name Mat
4 May 84	● The Quill utility ● Graphics utilities ● Microdrive ● 'Pengo' games ● Living Guide
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10 November 84	● Battlefield Joystick — comparisons ● Deus Ex Machina
16 May 85	● Sports simulations roundup ● Sinclair Story 2 ● Firebird ● Incentive ● Light Magic graphics utility ● music utilities ● Underwulde Map 1 ● Bruce lee map ● Sabre Wulf Map ● Everyone's A Wally Map ● Artist: Godfrey Dowson
17 June 85	● Denton Designs ● Frankie ● Spectrum surgery ● Sinclair Story 3 ● Knight Lore Map 1 ● Underwulde Map 2 ● Tape to Microdrive ● Leonardo graphics utility ● Datel sound sampler ● Artist: David Thorpe
18 July 1985	● Gremlin Graphics profile ● Artist Bob Wakelin ● Sinclair TV ● Tape Magazines ● Leonardo utility part two ● CRASHBACK looks again at games in Issue 8 ● Gyrone map of Atrium ● Modems round-up ● And the cover that had the Jehova's Jumping!
19 August 1985	WITHOUT PAGES 123, 124, 125 and 126. WITH: ● CRL Profile ● Pull out Oliposter — Fighting Spectrum ● Mirrorsoft Profile ● Inside the Timex 2068 ● Round Up of BASIC Compilers ● On the Cover Artist Rich Shenfield ● Maps of Dynamite Dan and Shadowfire
20 September 1985	● ALIEN 8 and DUN DARACH maps ● Electronic Pencil Company Profile ● Part Two of BASIC Compilers Round-up ● The 64K Spectrum ● Design Design Autoprofile, Part 1 ● Rod Cousens interview
Issue 21 October 1985	● Previews of Marsport, Astroclone, Elite and Scooby Doo ● NODES OF YESOD map ● Holografix profile — how to make a Hologram ● Crashtionnaire analysis ● Platinum Productions profile
22 November 1985	● Feature on small computer magazines — looking at the opposition ● Microdrive tips and hints in the NICHE and part 2 of the fast storage feature ● Susan Rowe is On The Cover ● An inside look at Fantasy Gamebooks ● Early looks at Robot Messiah, Tau Ceti and Zoids
23 December 1985	● Visit to Melbourne House ● Minson goes Surfing ● The Design Design autoprofile ends ● Computer graphics feature — On The Cover is Dave Beeson from Central TV ● Scary cover and Scary Preview of Friday 13th ● More previews, comps and tips

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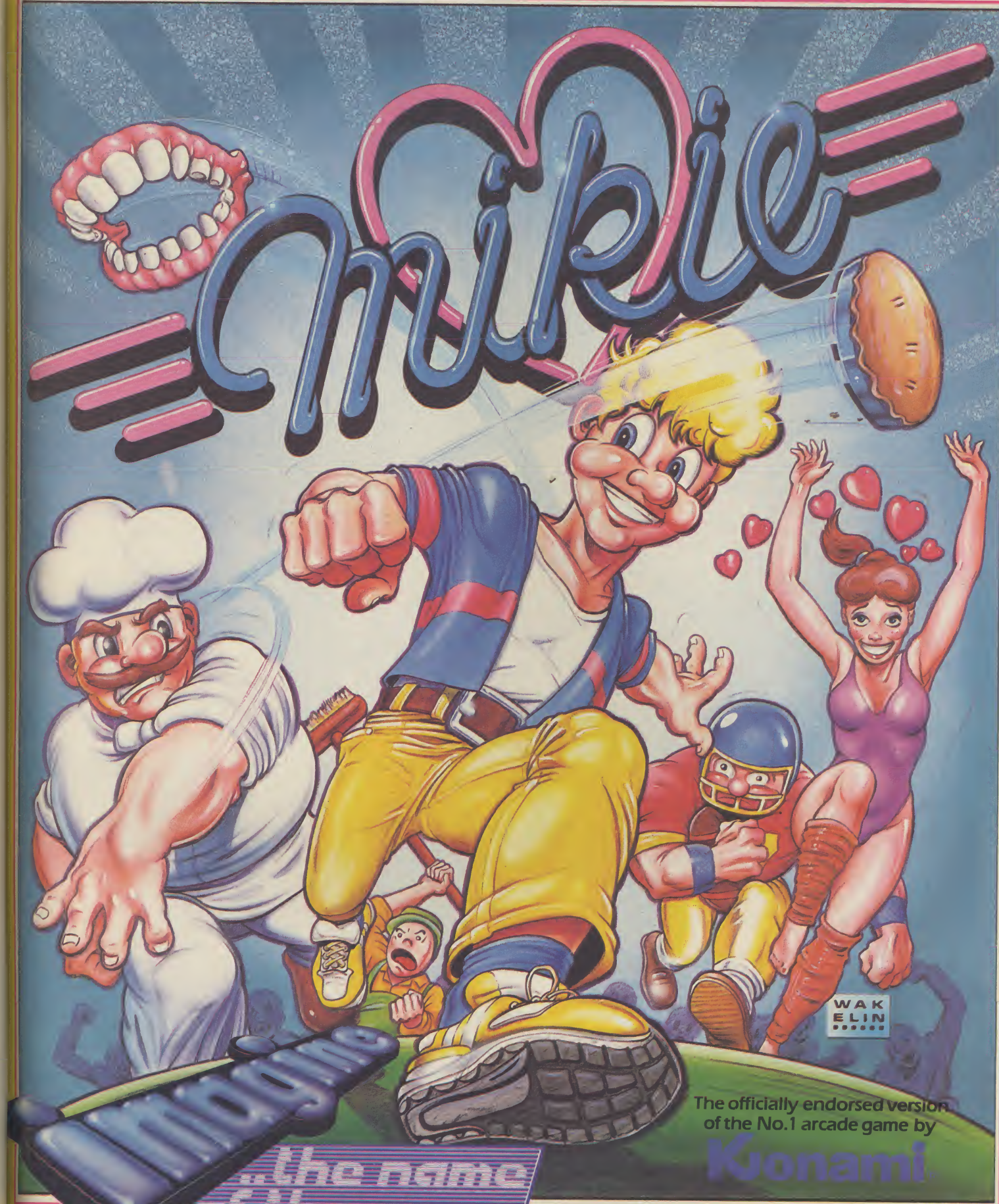
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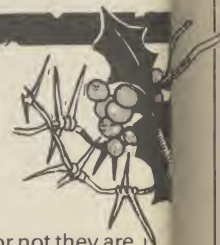
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FR



NTLINE



AUSTERLITZ

Producer: Lothlorien
Retail price: £9.95

Imagine a cold December morning in 1807. Around 150,000 men are gathered on the field of battle before some of the most powerful leaders of Europe — and you have *Austerlitz*, Lothlorien's successor to *Waterloo* in their solo Warmaster series.

The packaging for *Austerlitz* is the same 'video case' affair that graced their previous effort. Inside the beautiful case, there's the usual manual and cassette. I was given photostats of the manual pages, as the finished booklet has not yet gone to print. However, as with *Waterloo*, the finished instructions will be in a slim, glossy A5 size booklet. In fact, much of the layout and text has been lifted from the previous game, as both use the same rules system.

The manual provides all the details on the mechanics of play, historical notes to accompany the game itself and character sketches of Napoleon's Corps Commanders (a brilliant idea which unfortunately couldn't be incorporated in *Waterloo*). All the instructions are clear and concise and within minutes of reading them you should be able to begin the game.

Austerlitz has three levels of difficulty. The first is a training level to allow you to become accustomed to the game. If you are familiar with the system (as I was after playing *Waterloo* for ages), this level fails to provide serious competition. However, do not under-estimate the difficulty of other levels. The second is the standard game which takes some time to achieve a good result on, but the third alters some of the setup conditions pertaining to the efficiency of the Austro-Russian forces (otherwise known as the computer), in order to create a very difficult situation for the French.

Once the game level has been

After last month's little mistakette (something to do with the way in which Leprechaun was spelt), we'll keep the introduction brief. Over to you, Sean Masterson . . .

Because of the limitations of space and and time (this being our Christmas suicide attempt), there will probably be the odd title released during the festive season which won't be reviewed until the new year. I could try and do one of those 'pseudo' reviews based on unfinished games or versions for other machines but — well, that wouldn't do at all, would it.

selected, the battlefield is displayed. This is approximately four times the size of the screen display and can be viewed by scrolling with the cursor keys (making use of a scrolling routine that would grace many an arcade game, at that). The player's units (French) are displayed in blue whilst the Austro-Russians are shown in yellow. Terrain features are simply, but adequately defined and the only

new feature is the frozen lake — a nasty affair which should be avoided at all costs (unless you can force the enemy onto it).

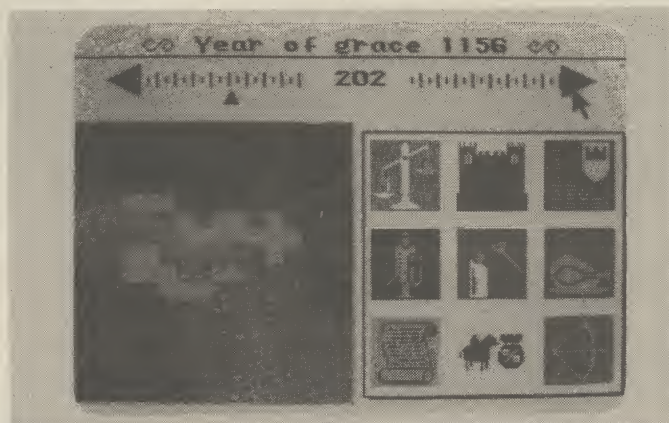
Many of the other details of the game come directly from its predecessor; infantry and cavalry actions only; terrain effects on movement; unit display and movement and combat procedure. Units are displayed as character blocks with crossed swords for cavalry and a rifle for

infantry. Whether or not they are Commanders is also shown, as is the Corps they belong to. If desired, unit strength and morale may be shown (although strength only is revealed for enemy units). Combat is automatic, given that one or more units have entered an enemy zone of control (one adjacent character block on any facing from an enemy unit).

One of the interesting ideas employed in the game is the use of limited intelligence. This is to simulate the early mists that clung to the battlefield on that December morning and added so much confusion to the battlefield. After the first turn, only those units spotted by your advanced units or those encountered before combat, are revealed. Otherwise, during the computer's turn, 'blank' squares may be seen to begin to move to simulate partial awareness of the Austro-Russian dispositions. Otherwise, you're in the dark.

Game turns consist of giving orders to all your units and then entering them in one command, to the computer. Before entering your command sequence, moves for any unit may be changed at will. French movement and combat sequences follow, after which the computer's turn takes place using the same format. It's during your movement phase that various Corps commanders may offer alternative courses of action. Indeed it may be the case that they are more fully aware of the situation in that area than you, and to begin with, their advice is extremely useful. In more sophisticated games, however, be sure to read the character sketches from the manual. On one occasion, a commander who had been involved in very heavy fighting was down to his last five hundred men when he suggested that rather than retreat to a nearby hill, as I had ordered, he could intercept a 6,000 man infantry unit. On checking the notes, they referred to him as 'incapable of individual command' but 'personally brave: wounded 34 times in combat'.

The game looks almost ident-



The enemy's forces gather on the right of the screen. Never mind the quantity though, what about the quality?

ical to its predecessor and its aesthetic feature are deliberately so. But as with all good war-games, the subtleties of the game are vastly different. *Ausertlitz* plays well and makes an excellent addition to *Waterloo*. This is another goodie. Get it when you can.

PRESENTATION 90%
Up to the standard now expected of the Warmaster series

RULES 87%
The character sketches are an excellent addition to an already superb set of rules

PLAYABILITY 87%

Very user friendly

GRAPHICS 92%

Uncluttered, appealing display

AUTHENTICITY 90%

An excellent simulation

VALUE FOR MONEY 95%

Hardly a byte of unused code

OVERALL 93%

Character sketches and limited intelligence make this better than *Waterloo*.

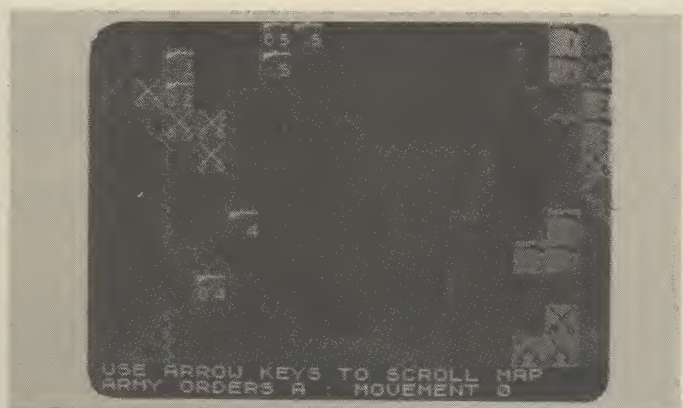
If Lothlorien keep going like this, my ratings will not be able to do them justice

THE EVIL CROWN

Producer: Mind Games
(Argus Press Software)
Retail price: £9.99

This one player game is all about running a Barony in feudal medieval England. It's an icon driven game which allows the modification of various factors surrounding the running of your estate. Apart from the now fashionable use of icons, the game employs some animated sequences (to depict battles and revolts) and a redesigned character set adds atmosphere to the game.

The main screen is split into two halves. On the left is an overhead view of the fields worked on by the peasantry. The cultivated areas are shown in blue, over the forest region. If the harvests are not too good, it's possible to select new areas for farming, using an arrow cursor. To the right of the screen are nine main icons which allow you to alter the tax rate, alter the toll rate for passing traders; pay scutage to the king (to avoid having to send your militia into battle for him); modify the size of the militia; give food hand outs (if the peasants are particularly poor); spend money on tournaments; check your progress; continue to the next stage of the game and quit.



Cultivated land is displayed on the left of the screen, while game icons allow you to reach other parts . . .

All of these icons are well defined and responsive to commands. The idea is that from the first year (1156), the estate has to be managed in yearly turns. By maintaining the right balance of taxes and forces and proving yourself in the annual tournaments. The main strategy part of the game takes place in the first part of the game where the allocation of available resources is planned. The option to continue is then selected.

The first part of this section shows a repetitive sequence of animals wandering through the forest. The more creatures, the less efficient the use of labour and land. A 'go away' icon allows the scene to change to the tournament sequence. This is the only part of the game that

requires physical dexterity. The player takes part in a joust, and the top half of the screen displays the riders approaching each other. The bottom half has the jousting score on the left, and a view of the oncoming knight on the right. The cursor now becomes the point of a lance, itself made to move jerkily to simulate the effects of the galloping horse. By the time the two riders meet in the centre of the screen, the point of the lance must have been guided into a position that will result in a strike against the opponent. Enough successful passes and the tournament will be won. This section is particularly difficult to master, however, so practice will be necessary.

Whatever the outcome of the

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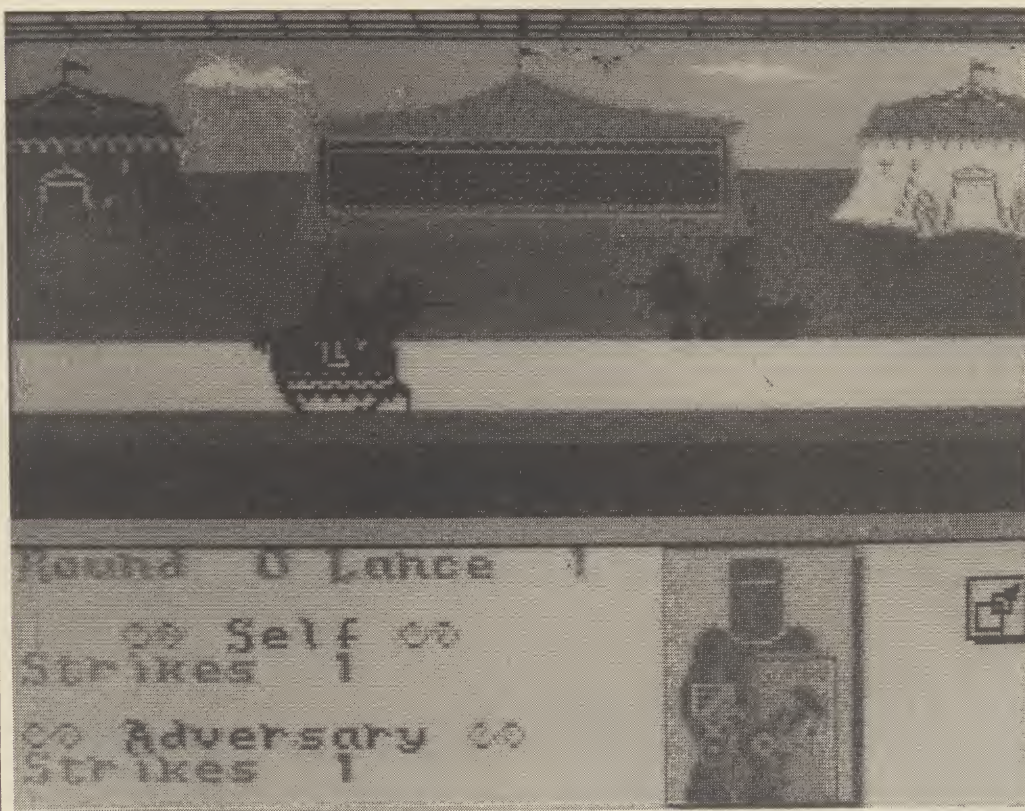




FRONTLINE

tournament, the next stage of the game deals with any battles and/or revolts by the peasantry that have to be resolved. Another option, to pay the militia for their participation in these events, is provided. A simplified graphic sequence showing a couple of figures in combat is used to convey the result. The colour of the figures also reflects how large the battle is. Assuming you are not totally defeated

Having said that, eventually the game mechanics become clear (before frustration with the game has mount too high) and enjoyment can be got from the different extremes of game type employed throughout the turn — from the rather exploratory nature of choosing new land for cultivation to the deadly sequence in the tournament section. The game could have been a lot better, however, had it



The deadly jousting sequence commences. Note the window to the bottom right where your lance's position is controlled.

at this point, the next screen shows the harvest result. The greater the harvest the more efficient the labour force and use of land. Random elements like the effects of weather are accounted for by animated clouds covering the sun. If all is well at this point, the game progresses to the next year.

In some ways, the instructions to the game were misleading, saying that icons would be highlighted when they were not, and they failed to explain the jousting display. Moreover, the actual quantities of money used in various aspects of the game were simply left as abstract units without any guidance as to what those units were actually calculated in.

explained the consequences of your actions. As it stands, you are left somewhat in the dark when it comes to deciding on a strategy for play. If you can handle the initial ambiguities, this could provide a stimulating and entertaining change from the conventional wargame.

PRESENTATION 78%

Good use of icons with the exception that they are not highlighted as they should be for extra clarity

RULES 70%

Reasonable. Notes on the consequences of particular strategy would have been

welcomed

PLAYABILITY 79%

With or without a joystick, the game is responsive and adequately designed for the beginner

GRAPHICS 80%

Some clever touches, marred slightly by occasional flickering

AUTHENTICITY 63%

By no means a historical simulation but responds well to decisions made during the game

VALUE FOR MONEY 75%

The game's structure hides a complexity that should lead to many hours' enjoyable play

OVERALL 77%

Not without its faults but a pleasantly different and thought

we tried using missiles on enemy units. The hope was that we could then win on the strength of numbers, as the computer would always send missiles back against our cities.

In the game, a city meant less to us than a unit consisting of only 1,000 men. Eventually, this war was ended in the same way as all the others — all out nuclear conflict. The only way we could come close to winning was to play a non nuclear scenario, confined to a small area of West Germany, and involving relatively little loss of life. CND have protested to PSS about the game but I agree that such games actually encourage pacifism.

JPL — No address given.

Interesting. The fact that the game you discuss is on another machine is, of course, irrelevant to the argument. However, while it's reassuring to find like minded people regarding this subject, no wargame is perfect. The apocalyptic outcome of a game like PSS's should not be regarded as inevitable — no matter how likely it may seem from the scenario. Modern war is far too complex for anything other than a superficial simulation on any home micro. As an example of a bizarre sounding and yet plausible modern war scenario, read the 'historical notes' from Game Designers Workshop's Twilight 2000.

Dear Sir,
Although I have a large number of wargames in my collection, I feel that they all lack options which others possess. I have therefore made a list of options which I think should be included in a wargame.

Every unit should have ammunition and troop status and mechanised units should have fuel status which needs to be resupplied.

Supplies should be delivered by air, land and sea. Supply convoys should have little or no combat effectiveness.

The capture of various objectives should have a direct effect on the enemy. For example, if an enemy fuel dump is captured, the captor should be able to take advantage of the situation.

Units should have varying mobility, firepower and range limitations.

When immobilised or damaged enemy units are over-run, they should be able to be repaired and utilised by the owning player. Players should be able to repair their own damaged units but not destroyed ones.

Mine laying and clearing options should be available.

I hope other micro wargamers write in until the programmers have a comprehensive list of the things we would like to see in the games. Perhaps this will encourage the development of better wargames.

Craig Rice, Colchester, Essex

I had to cut several of Craig's suggestions from the letter due to lack of space. Some of them would require extensive use of a RAM disk facility in the yet to appear Spectrum 128! But what do the rest of you think?

provoking game

Lastly, I think we have the start of a Frontline Forum here. If you have something you wish to discuss about this column or indeed just have ideas you wish to air, feel free to write to me at Crash Towers. Meanwhile, Happy Christmas...

Dear Sean,
I read your comments on the morality of wargaming with interest. Regarding your closing statement, when playing *Theatre Europe* on a friend's Commodore, our original strategy would be to use biological or nuclear weapons on enemy cities. After a couple of games, however, we found that this would always be met with similar retaliation from the enemy and consequently, led to the destruction of our cities. Next,

THE OFFICIAL 1985 INDEX

Your index to CRASH software reviews, Issues 13 to 24 inclusive, in alphabetical order by name of program. Remember, not all programs get a percentage rating (Adventure Trail, CRASH Course etc), so don't be too disappointed ... Thanks to PAUL SADLER of Ipswich, who did the groundwork, and Gaz Sumpter of Birmingham, who missed his bus twice in the doing of this task!

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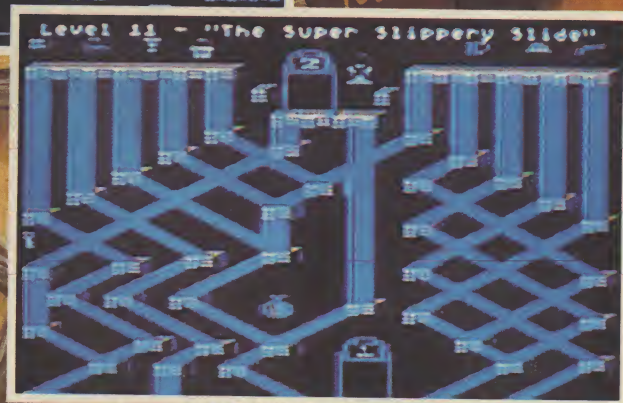
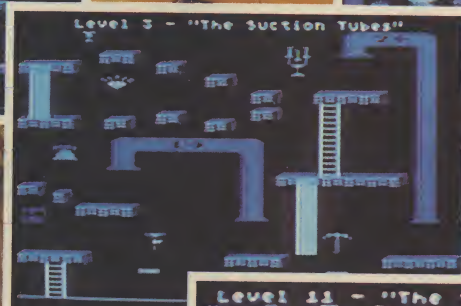
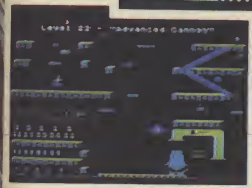
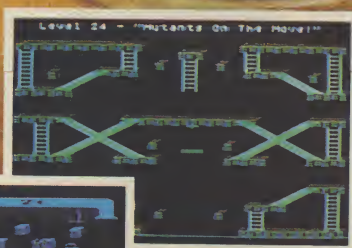
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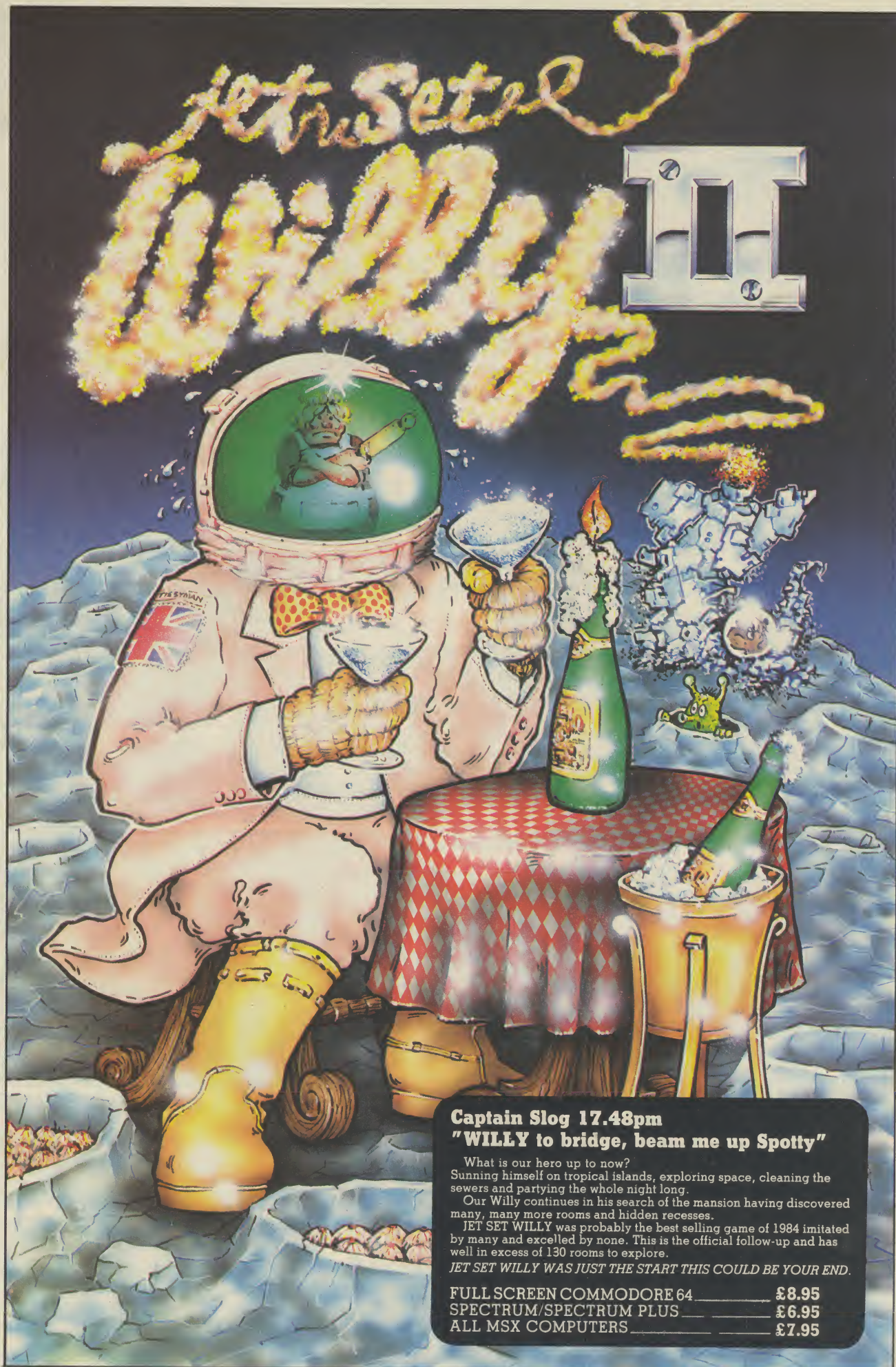
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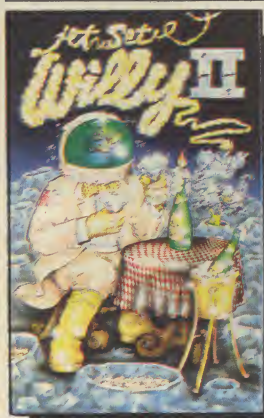
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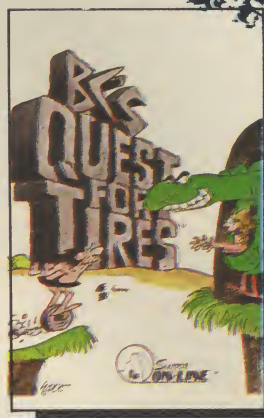
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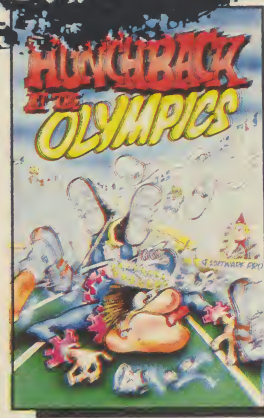
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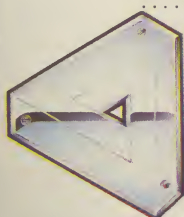
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ON THE (CRASH) COVER

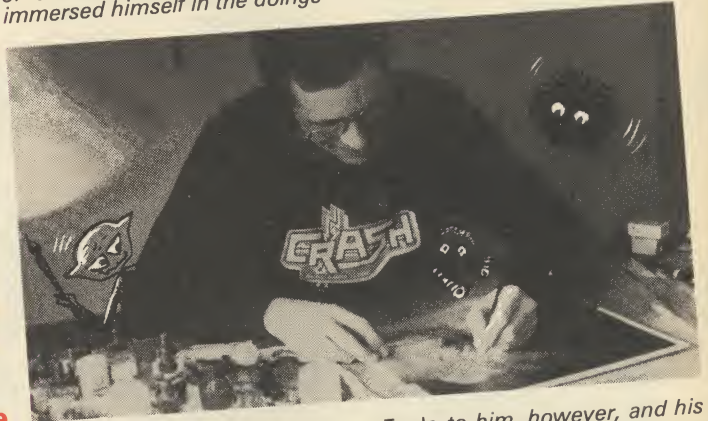
The first thing you notice about **CRASH** is the cover. Oliver Frey is responsible for all the covers — and a great deal more in the way of illustrative material that graces the pages of the magazine.

We made an appointment with the Olibugs, and were granted an interview with their master, who works on a desk covered with little bottles of Luma ink (used in his airbrush), right at the pinnacle of **CRASH** Towers in the draughty Artroom Garret. There was a time, before **CRASH** started, when Oli made his living as a freelance illustrator — but nowadays he's holding down what must seem like the equivalent of a couple of full time jobs, painting covers for **CRASH**, **ZZAP!** and **AMTIX**, as well as Christmas posters, Olibugs, the Hall of Slime — and lots of fiddly bits, like logos, competition illustrations and giant capital letters to pretty up the text in all three magazines produced by Newsfield.

THE TALE BEGINS nearly thirty years ago, when the Frey family came to Britain from Switzerland. The very young Oliver Frey started school and was soon introduced to Eagle by his comic-mad classmates. Oli was immediately taken by the quality of the artwork in Eagle, and immersed himself in the doings

cowboys and indians picture the nine year old artist had produced, and wheeled him round all the classes in the school showing off his work!

After a few years the Frey family moved back to Switzerland, and Oliver's education continued — a friend in England continued to send copies of



of Dan Dare and his battles with the Mekon. Already exhibiting an artistic leaning, Oli began copying drawings — and his first brush with fame came when a teacher caught sight of a giant

Eagle to him, however, and his weekly dose of comic fun came through the post. He was addicted to the work of such greats as Don Lawrence (Trigan Empire), Frank Bellamy (worked on

OLI FREY - NEWSFIELD'S AIRBRUSH MAESTRO

THE COLONY THAT VANISHED

Where was it... the land that the Vikings discovered in North America? Today, no one can be sure, for the location of this discovery remains one of history's most intriguing mysteries



A new land — and a hospitable one! Leif Ericson's eyes gleamed when he thought of the land across the seas.

THE Vikings are coming! That was a cry that could send a chill of fear through the veins of Britons, Irishmen and Frenchmen a thousand and more years ago. As these fierce, bearded Norsemen rowed up the European coastline and swept up before them with battle axe and sword, the local people took to their heels and fled in terror. Those who were less terrified, those who were slow usually paid with their lives.

The Vikings, who came from the Scandinavian countries first in search of plunder and later in search of land upon which to settle, spread themselves across the Continent like locusts. If they liked what they took, he made them, they were happy to call it home forever. Thus William the Conqueror, who came to England in 1066, was a descendant of Vikings who had settled in

part of north-western France. Some went even further than Europe in their eagerness to escape their homelands. They sought new lands, to Syria, and to Iceland. A hundred and fifty years before the Battle of Hastings, Iceland had a population of 30,000, mostly descended from the marauding Scandinavian Vikings.

One day, one of the Icelandic chieftains, Eric the Red, quarrelled with the Council and the Red, quarrelled with the Council and was banished. He took a ship and, with a few supporters, sailed towards the unknown west. After many days he came to a land overhung with ice-tipped mountains, and without people. Eric the Red called this grim new country Greenland. "Men will come here more readily if I give it a fair name," he reasoned. And more Vikings did readily come to Greenland. When the colony was several

thousand strong, an Icelandic named Bjarni Herjulfsson set sail for Greenland to visit his father, who had gone there with Eric the Red.

Bjarni was not far from Greenland when the storm that was to assure him of his niche in history blew up. He secured the single square sail on the mast of his longboat, but the wind shrieked and the waves twisted the ship until all sense of direction was gone.

When the storm abated Bjarni saw land on the horizon. But this was not his father's land of ice-tipped mountains — it was, instead, low, flat and thickly wooded.

Bjarni shrugged. He had been blown off course, that was clear. There was no point in exploring this new landfall for, although it was curiously inviting, it probably nurtured dangerous savages. So he set a new

CONTINUED ON NEXT PAGE



Leif and his men struggled through the stormy seas, glad to feel the firm tread of land under their feet after so many weeks in open waters.



Book jacket illustration for the Hamlyn Book of Horror. 1977

Dan Dare and other features in Eagle) and Frank Hampson (creator of Dan Dare). Indeed, Oli sent several of his own drawings into his favourite comics, and was once rewarded with a reply from Don Lawrence — it wasn't the last time they were to have dealings. Oliver decided that he wanted to become an artist, and he persuaded his parents to allow him to take a correspondence course in illustration while he was at school. They paid for an American course called The Famous Artists, a series of three books written by a team of a dozen illustrators. Each of the thirty six lessons ended with an assignment, which had to be completed and sent off to be marked.

By the time Oli finished his A levels, he had completed the course and was keen to become an illustrator. Or a film producer — he had been making films with an 8mm camera, with his brother Franco and sister Lauretta as stars. Or an army officer (military service is compulsory in Switzerland). Or a diplomat.

The London Film School attracted his attention, and during a visit to England he approached them, explaining that he was keen to begin a career in films and had been making them at home. They were interested, but wondered whether his preference for action movies was quite what was needed — Oli had been making films about the Swiss version of James Bond

named James Tell, appropriately enough (we might print a few stills of Franco Frey, Secret Agent one day...). In the event, the London Film School advised that he was a little young to start a course, and he returned to Switzerland to begin his army service.

Plan B swung into action. At the time, the minimum period of national service in Switzerland was 3 months of basic training. Oliver decided to carry on for a while longer, and go for Corporal. After six months, his first spell in the army finished, and Plan C came to the fore — he started at Berne University, reading History, German Literature and English Literature with a vague view to entering the diplomatic service.

"Unfortunately, my university career wasn't a roaring success," Oli remembers, "I started going to the cinema seriously while I was at university, instead of going to lectures and it wasn't long before I realised that I was much more interested in making films. After a term I left university and approached the London Film School again. I was accepted, and started a two year course in 1969. In those days it was called The London School of Film Technique, and the course covered all aspects of film making."

And of course, while he was in London, Mr Frey had to support

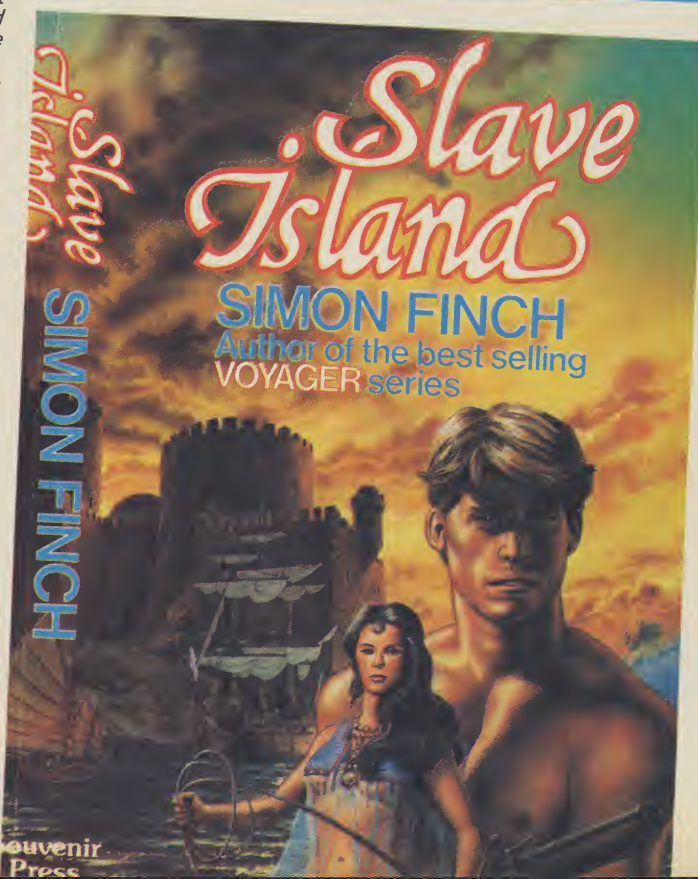
himself, to some extent, so he looked for some freelance comic work. "I went to the War Picture Library, who still publish war stories in comic-strip form, and persuaded them to let me illustrate a story so I could show them what I could do. I was given a script and told to go away and draw a five page strip. They liked the work, and I was

commissioned to do a whole book — that took two months, working in a bedsit during the evening, and it was accepted."

Thus began a long association with the War Picture Library, which resulted in dozens of covers and illustrated stories.

At the end of the Film course, another period of compulsory army service in Switzerland

Book jacket for the novel 'Slave Island' published by Souvenir Press. 1984



Double page marine illustration for Look and Learn. 1977

followed, during which Oliver was given the chance to go to Officer School, and could have embarked on an army career. By now he had made up his mind. Neither the Diplomatic Service nor the Armed Forces tempted him — he was thoroughly hooked on films. So when he finished his army service, he returned to England to continue with his freelance illustration while he wrote a film script.

Returning to England, Oli looked up a friend from Film School days — one Roger Kean — and together they came up with the notion of setting up an industrial film company in Switzerland. The film script came to nothing, and Messrs Kean and Frey went to Switzerland with 16mm camera and professional sound equipment to make their fortune producing films for companies. "Unfortunately I've never been very good at selling," Oli explained, "and Roger, while being more of a salesman, was hampered by the fact that he couldn't speak German." The film company gradually petered out, and Roger and Oliver re-

turned to England.

While he was in Switzerland, trying to sell the services of the film company to Swiss businesses, Oli continued to draw War Picture Library material on a freelance basis. Returning to England, he found an agent who specialised in comics, and a wide variety of freelance illustration work began to come Oli's way. (Mr Kean disappears from the story for a few years, scampering off into the distance and becoming a film editor with the BBC, finally going freelance before being roped into the CRASH Editorship some years later).

IPC comics soon became a regular source of work for Oli. He finally caught up with his childhood heroes: for a couple of years he took over from Don Lawrence and drew The Trigan Empire for Look and Learn (before the novelty wore so thin that he had to stop or crack up), as well as general feature illustrations; then his interest in Dan Dare came full circle. He found himself drawing the very same strips as the artists he had

admired as a lad!

Throughout the late seventies and early eighties Oliver established himself as a freelance comic artist — but other fields also opened up. Apart from regular work for IPC and the War Picture Library, Oli produced book covers for Souvenir Press, Video covers, and illustrations for children's books, including Oxford University Press. More than a few history books (and the odd horror story compilation) have been graced with Oli's work.

Oliver's work was reaching a large audience — but one piece of work in particular reached a massive circulation... Oli had been seeking to diversify, and move gently away from comic work. Having heard that there might be a vacancy for a storyboard artist at Pinewood Studios, working on Superman, The Movie, he drove to the studios and met the Art Director. At the time, they were re-working the flying sequences, and while the Art Director was impressed with the Frey portfolio, he couldn't afford the time

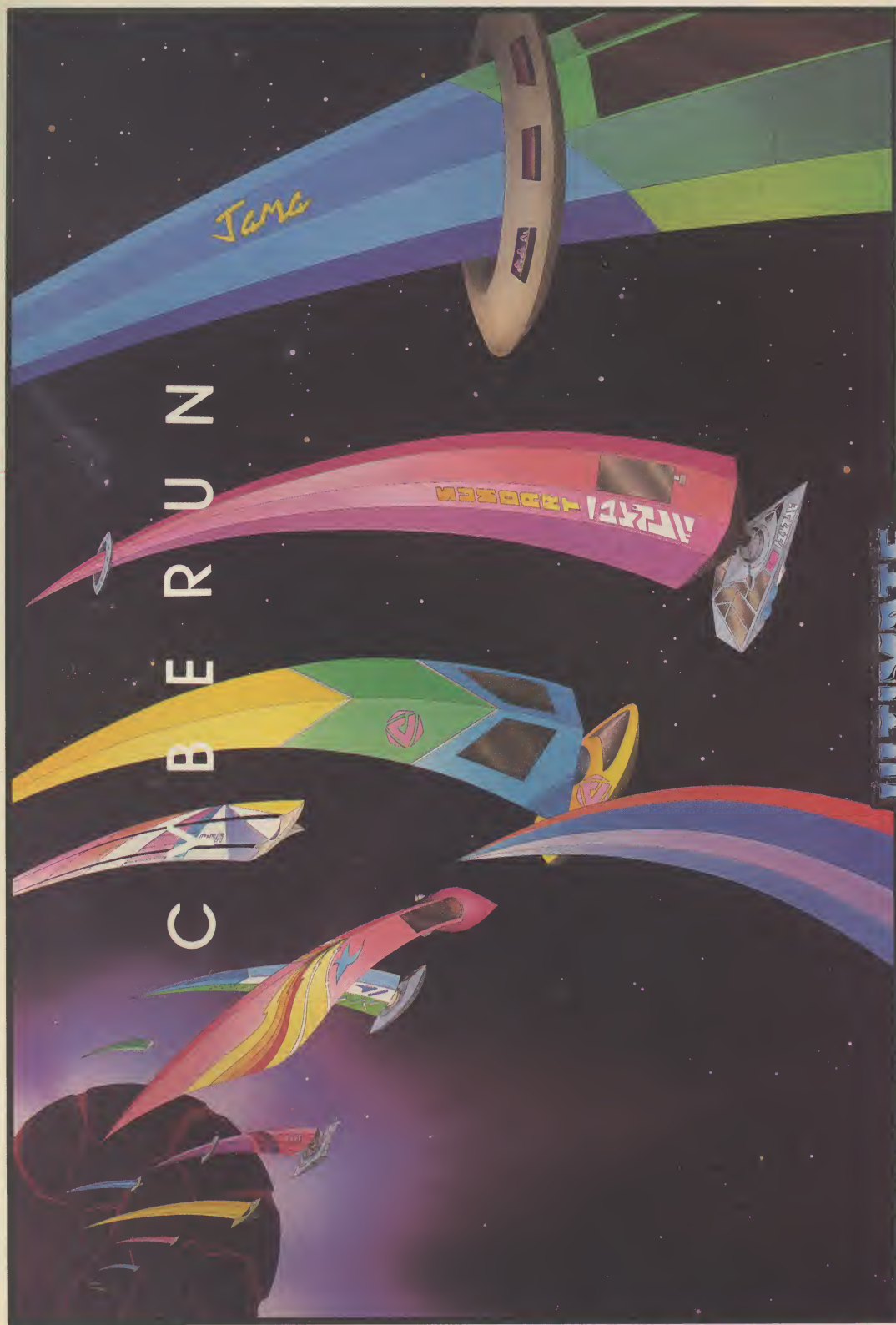
to teach him about the technicalities of camera lenses and the like needed for this particular very specialist vacancy. It was no job.

Then, a week later, the Superman Art Director called Oli. They needed a 1930's style Superman comic for the title sequences. Thus Oli found himself in an anteroom to the Director's office, waiting for a couple of hours while a landslide scene was argued about, and discussed endlessly. Suddenly, the Director realised that someone had been waiting for hours to see him, ushered Oli in, explained what they wanted and asked for some pencil roughs of a 1930's street scene... "perhaps with a policeman swinging his nightstick..." A couple of days later, Oliver returned with a pencil rough of the strip and a comic cover inked in: "In the 30's, Superman was drawn in a very rough style," he explained, "and I was worried that I might let myself down by copying the rough appearance of the originals, so I inked in the cover and held my breath while I



A Dan dare spread from an Eagle Holiday Special done for IPC Magazines in 1984.

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TRIGAN EMPIRE

PICKING UP HIS WOUNDED BROTHER, TRIGO RAN THROUGH THE HAIL OF HURLING DEATH.

HE CAME TO A RAMPART, WITH DARK WATERS OF A MOAT FAR BELOW. A SHOUT RANG OUT...

Hey! — Stay where you are!

AND THEN, STILL HOLDING HIS PRECIOUS BURDEN — HE LEAPT!

Here goes the last of the Trigan Emperors!

THE EX-EMPEROR'S SWORD FLASHED IN THE MOONLIGHT!

Aaaaagh!

A HELI-JET, BRISTLING WITH GUNS AND SUMMONED BY THE DISTURBANCE, SIGHTED THE FIGURES IN THE MOAT — AND OPENED FIRE.

A page from *The Trigan Empire* (Look and Learn IPC Magazines). 1977

handed the work over."

He needn't have worried. The Director was well impressed, and the rough of the cover was accepted on the spot, and was used in the title sequence along with the finished version of the strip.

The Oliver Frey story moves, with him, to Ludlow in 1982. In the late seventies Oliver had visited Ludlow several times — long enough to fall in love with the town. It just so happened that the rest of the Frey family were looking to move from the Home Counties, and in 1982 an exodus to Ludlow took place. Franco, who'd gained a degree in Engineering since playing James Tell, and had been working on a variety of high-tech engineering projects, got involved with a German company which wanted to import Spectrum software from England. Franco bought a Spectrum and was busily playtesting games, researching the market for his German contact, when he came up with the idea of starting a magazine — or at the very least, a mail order service selling Spectrum Software. So it was all his fault.

In July 1983 the first mail order advertisement for CRASH MICRO GAMES ACTION was placed in Personal Computer Games, and Oliver was embroiled in producing illustrations for the catalogue... as well as publicity stills. Mr Kean was roped in, and somehow, the whole thing grew into CRASH Magazine, and Newsfield Publi-



An illustration for a Look and Learn article about the explorer Magellan. IPC Magazines 1977

cations... The freelance work came to an end.

Most of Oli's colour work for the magazines is executed using an airbrush to paint in large areas of colour, and backgrounds, with details being added with

pen or brush. "I like the airbrush because it is simple, and is a very quick method of applying colour and adding effects. It's a time saver. I remember one painting I did for Look and Learn, in which the foremast of a ship is shrouded in mist. All I had to do

was paint the mast and rigging in solid black and then airbrush colour over it to give the effect of mist. If I had attempted that part of the painting using ordinary brushes it could have taken several days to achieve the effect I wanted, rather than a couple of hours. And time is of the essence, when you're working as an illustrator."

Oli's only been using an airbrush for five or six years though. Most of his comic work was created using traditional brush and pen techniques, using acrylics. "It's easy to overpaint with acrylics, and you have to be more careful in the planning stage when you're using inks and an airbrush — it's easy to lose the depth of colour if you try to put ink on top of another colour. Generally, I'll produce a pencil rough onto the board I'm working on, and then spray the background and large areas of colour on top, adding the fine detail by hand."

It took quite a while to convince Oliver that an airbrush would be useful — he remained convinced that far too much time would be spent masking off areas, applying a colour, removing the masking and then applying another mask for the next colour and so on which is the 'classical' way of working with an airbrush. Finally, he was persuaded to get a Thayer and

Chandler airbrush after he had seen Terry Gilliam's effortless use of airbrush technology. "I'm not very good at coping with technical things, and equipment," Oliver confesses freely. Which is why he can often be spotted prodding his airbrush, looking puzzled, after it has clogged up — which it has a habit of doing every so often, despite the fact that he uses special non-clogging American inks. "They're strange things, these Luma Inks," Oli explains, "you're supposed to keep them in a cupboard, locked away from the light. And whenever I'm spraying an orange background everyone tends to leave the Artroom — it smells disgusting, like someone's been sick." Which all goes to show what Oli's prepared to go through to produce his paintings!

Given his background in comic strips in combination with his interest in films, it would seem logical for Oli to get involved with animated movies — perhaps involving computers. "I've never been tempted to get involved with computer art — I'm not really very patient. I find it difficult enough coping with the airbrush, which I like because of its simplicity, and I couldn't sit down in front of a computer and fiddle endlessly with the keyboard to produce the result I wanted."

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Several stages showing the development of this issue's CRASH cover as Oliver works it up to completion.

"When it comes to animation, there's so much work involved that I'm sure I couldn't put up with it. I've looked at the process, and gave up the idea of making cartoon films before starting. So much of the work is mechanical, tracing hundreds and hundreds of cells and inking them all in — I simply wouldn't be able to apply myself to such a

task. Though if I had a team of animators at my disposal, to do all the finicky work...."

It's not difficult to spot the influence Oli's background in comic strip illustration has had on the overall look of the magazines — bold images zooming out of the pages are fairly typical of the design, which is the way comic illustrations work, picking

on particular elements and emphasising them. "I became an illustrator in the first place because I liked comics," he explains, "and this carries over into other areas of work." Comics are fairly firmly ingrained on his consciousness nowadays!

"When you're working on a comic strip you tend to be illus-

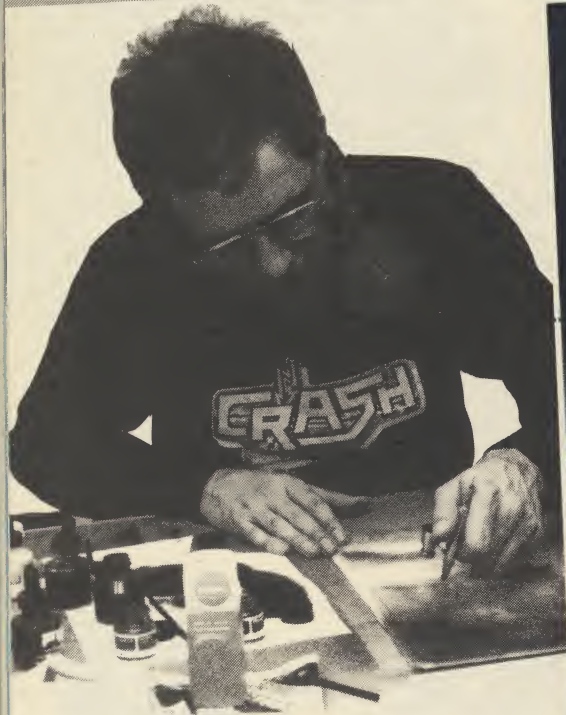
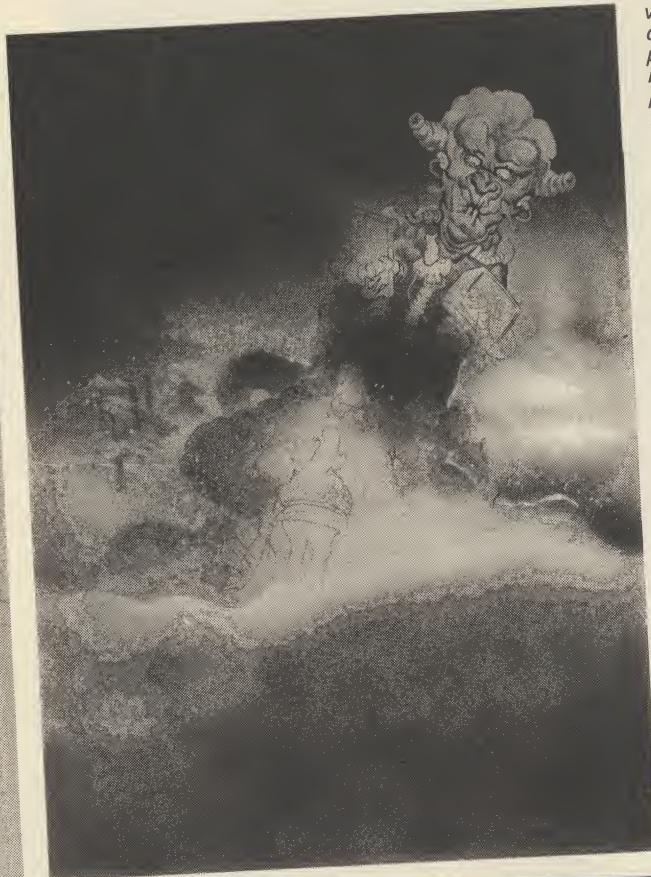
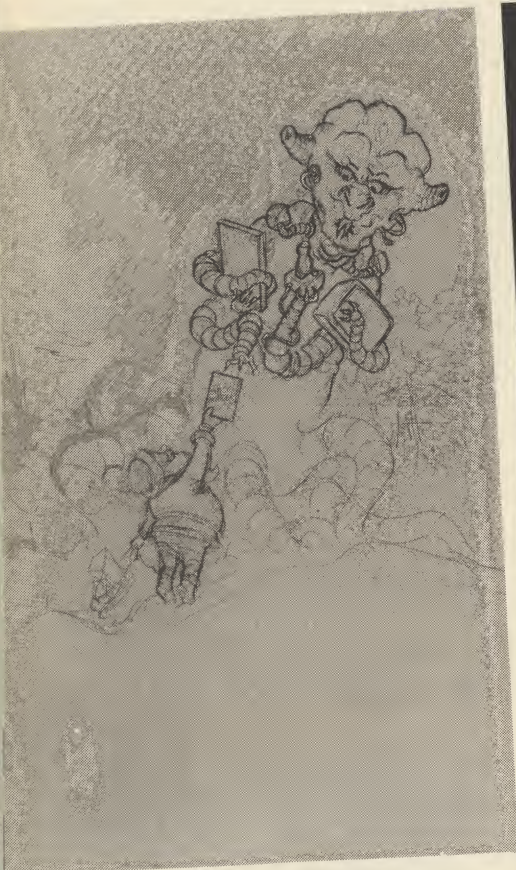
trating stories provided for you by a writer — you work as a team. A good comic strip author has to realise what is and isn't possible visually, and it can get very tricky, working as an illustrator, when someone who hasn't such a strong sense of what is possible demands a very specific drawing.

"By the time CRASH starter each illustration — which means he has to come up with ideas as well as paintings. He's still producing pieces of work to suit a particular purpose, but he has more control over the whole process than he would have as a freelance.

Nearly all his paintings have a theme set in the past or the future — including the pure fantasy illustrations. Where does the inspiration come from? "I've never really liked the Here And Now — the Now doesn't really inspire me. I've always liked historical things. All my paintings are bigger than life, mainly because life isn't as exciting as it appears in pictures. I escape into a picture when I'm painting. When I'm really concentrating I sort of imagine I'm really there, looking onto the action in the painting — otherwise it's difficult to see the thing in my mind's eye. It can take a couple of hours for me to get away from a picture — when I finish I sometimes spend a hour just sitting in front of the painting, staring at it. I'm in an alternate reality, I suppose. To work, the picture has to be convincing to me, which means I have to get really involved in what's happening." Which accounts for some of the rather strange facial expressions that sometimes rest on Oli's face when he's drawing a monster, or an action sequence... he has been known to suffer from facial cramp as a result of some pictures!

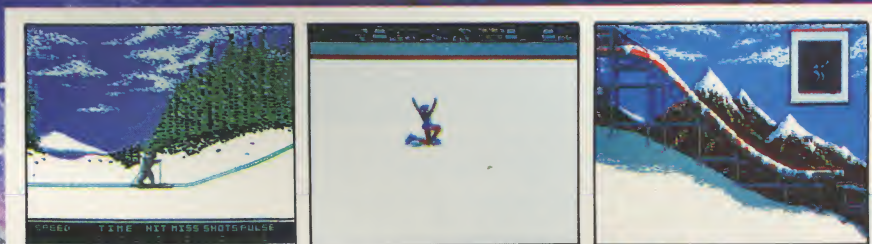
"I've always been a dreamer, a romantic if you like. Ever since the games I played as a child, when I was The Famous War Hero, or The Brave Sheriff Dealing With The Baddie, I've been able to get totally immersed in a fantasy world. I'm very interested in history, and read a lot of history books for relaxation, imagining I'm there. History is about real people, and I enjoy illustrating scenes from history, even though it involves quite a lot of reference work for accuracy. In some ways it's more pleasing to draw futuristic scenes and fantasy — the referencing isn't a problem, in that I make it all up, and it's just a matter of producing a painting that has its own accuracy and detail. It's more pleasing to make fantasy real than represent reality accurately.

"What I'd really like to do is direct a film, I suppose," Oli mused. "Film is the ultimate fantasy-fulfilling medium. The closest you can get to film in a printed way is a comic strip, and there are a lot of common elements. I'd still like to be the director, sitting above a massive battle sequence with thousands of extras all re-enacting a scene from history. I would really be there, in control of the ultimate fantasy...."



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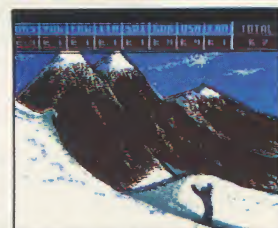
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